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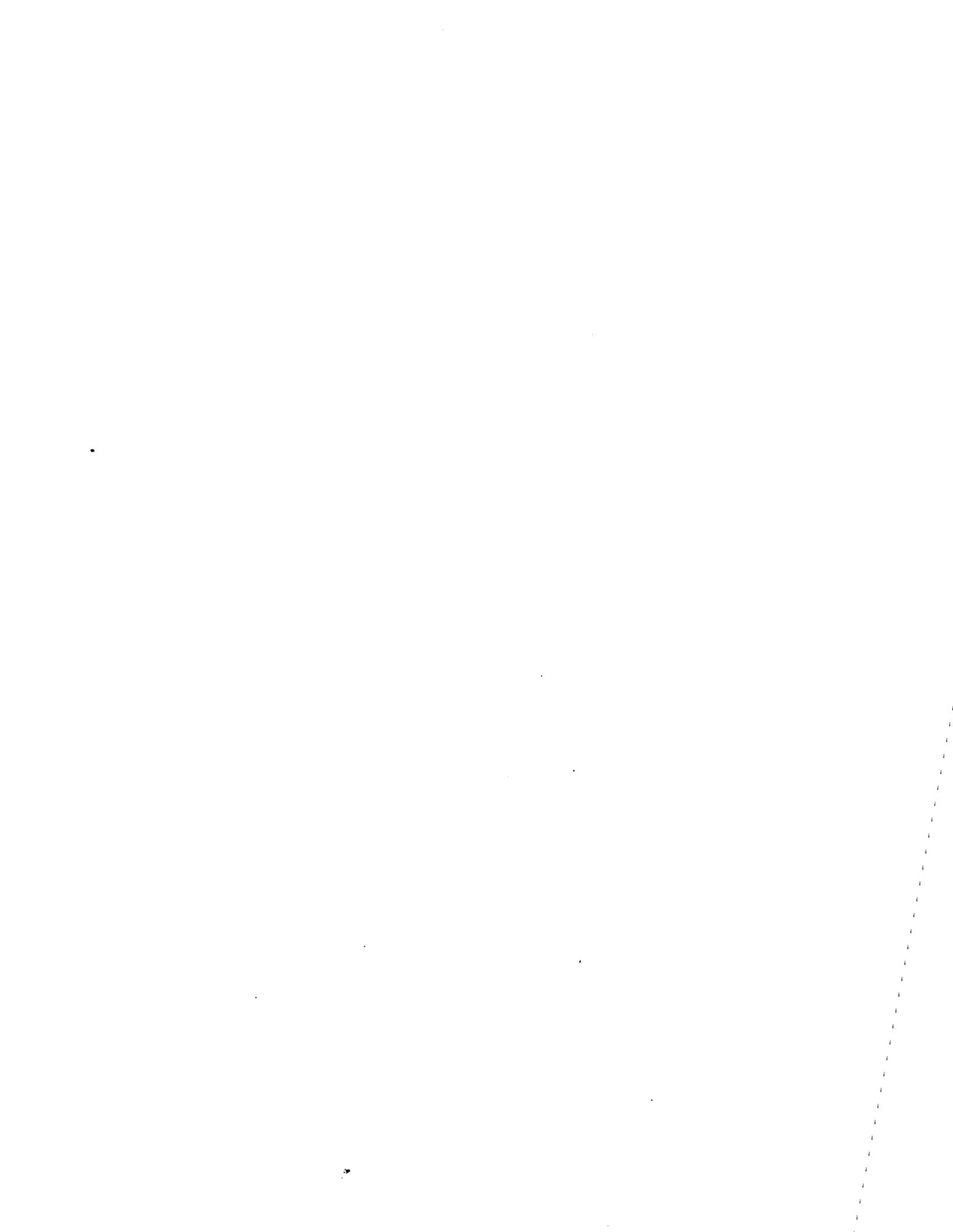
New Tools for Land Protection: An Introductory Handbook



**NEW TOOLS FOR LAND PROTECTION:
AN INTRODUCTORY HANDBOOK**

July 1982

**U.S. DEPARTMENT OF THE INTERIOR
Office of the Assistant Secretary for
Fish and Wildlife and Parks**



PREFACE

This report was prepared for the Office of the Assistant Secretary for Fish and Wildlife and Parks, U.S. Department of the Interior, by Warren Brown and Michael Auer. Portions of the report were submitted by the Center for Natural Areas under contract number 14-01-0001-81-C-26.

This project was undertaken in response to recommendations by the General Accounting Office and the Land and Water Conservation Fund Policy Group (LPG), chaired by Ric Davidge, to promote better understanding of cost-effective land protection and management techniques. The statements in the following text are not intended to provide legal advice and do not constitute official views or policies of the Department of the Interior.

TABLE OF CONTENTS

	<u>Page</u>
Preface	iii
List of Figures and Tables	vii
Introduction	1
Matching Objectives and Techniques	3
Educational Approaches	9
Technical Assistance	9
Cooperative Management Agreements	10
Negotiation, Mediation, and Arbitration	12
Registration	15
Program Coordination: Environmental Impact Statement and A-95 Reviews	17
Regulatory Approaches	19
Zoning	19
Subdivision Regulations	23
Transferable Development Rights	24
Air and Water Pollution Controls	27
Acquisition Alternatives	31
Easements	31
Purchase and Sellback	34

Life or Term Estates	35
Donations and Bargain Sales	35
Exchange	39
Leases and Special Use Permits	41
Land Trusts and Private Not-for-Profit Organizations	42
Financing and Tax Incentives	45
Differential Assessment of Real Property	45
Land Gain Taxes	47
Transfer and Development Taxes	48
Loans and Grants	49
Revolving Funds	51
Estate Planning	53
Examples	57
Lowell National Historical Park	59
Sawtooth National Recreation Area	63
Redwood National Park	65
Cape Cod National Seashore	67
Pinelands National Reserve	69
Lake Tahoe Basin	73
The Adirondack Park	77
Columbia River Gorge	81
Blackfoot River	87
Water Bank Program	89

LIST OF FIGURES AND TABLES	<u>Page</u>
Federal Land Management Agency Objectives and Activities	6
Matrix of Management Objectives, Activities, and Conservation Techniques	8
Cluster Development	21
Estimated Costs of Access Easements	30
Analysis of Landowner's After-tax Position under Bargain Sale, Full Donation and Full Market Value Sale	38
Differential Assessment Programs	48
Location of Examples	58
Regional Location: New Jersey Pinelands	71
Regional Location: Adirondack Park	79
Regional Location: Columbia River Gorge	83



INTRODUCTION

In the past, federal agencies have most often used direct acquisition and management of land to protect significant natural, cultural, recreational and wildlife resources. The Land and Water Conservation Fund (LWCF) provides the primary source of support for land acquisition by the National Park Service, Fish and Wildlife Service, Forest Service, and Bureau of Land Management. Since 1965, these four agencies have used the LWCF to purchase about 2.7 million acres at a cost of \$2.3 billion. Nevertheless, completing the acquisition program in national areas already authorized by Congress is estimated to require an additional \$3 billion if past practices continue to be followed.

In recent years the traditional approach to federal land protection and management has been reexamined in response to several factors including:

- the need to reduce federal spending as part of the administration's program for economic recovery
- reports by the General Accounting Office on federal acquisition policies and practices
- recommendations by congressional committees to review federal land ownership patterns and policies; and
- concerns expressed by private landowners.

To meet these challenges and work within practical budgetary constraints, federal agencies have been exploring alternative methods of achieving conservation objectives. This handbook has been prepared to provide a general introduction to some of the alternatives which should be considered. The following chapters are designed for planners, land managers, administrators, landowners, and the general public to:

- inform about what alternatives are available
- promote better understanding of how to match management objectives with appropriate protection techniques
- identify some advantages and disadvantages of each tool
- encourage more complete consideration of the full range of alternatives

- help identify opportunities to improve cooperative relationships between land managers and property owners, state and local governments, and the private sector

As an introductory handbook, this document is not intended to answer all of the questions about how to make a new land protection tool work effectively. However, the following material should help identify the range of alternatives that may fit a particular situation, suggest how they can be combined into a strategy, and raise the right questions about what will be necessary to make the strategy work.

This report is not designed to provide legal advice. Federal land managers should be careful to check authorizing legislation for their specific area and coordinate plans to use any of the tools discussed in this handbook with legal advice from the Office of the Solicitor or General Counsel.

Part I discusses definitions of land management objectives and selection of protection tools.

Part II describes a variety of techniques for land protection in four major categories: Education Approaches, Regulatory Approaches, Acquisition Alternatives, and Financing and Tax Incentives. For each technique, there is a brief definition, a discussion of how it can be applied, and a summary of relative advantages and disadvantages.

Part III includes ten examples of individual areas where "new" protection tools are being used. Many of the protection tools discussed have been used for several decades, but they are still considered to be "new" as alternatives to fee simple purchase of private lands.

MATCHING OBJECTIVES AND TECHNIQUES

Finding the right protection tool to achieve a land management objective requires craftsmanship. In the land protection business, craftsmanship is the ability to mold and refine a variety of tools into a strategy to fit the unique circumstances of an individual area.

The first step in considering protection alternatives is to define as precisely as possible the management objectives for the land. Federal agency missions in general and specific mandates for each authorized area are established by Congress. However, these mandates are most often at a very general level such as: "to preserve and protect," or "to make available for public use and enjoyment." In each area under consideration, it is necessary to define general objectives and the specific types of management activities that might be necessary. Table 1 summarizes some typical objectives and the type of management activities that may be involved. With these activities in mind, it is possible to identify what private uses may be compatible with protection objectives and what interests in land, if any, may need to be in public ownership.

For example, consider the difference between management strategies required to protect native plant communities, to provide public recreation, and to protect and restore historic sites and structures. A wide variety of protection techniques are available to prevent destruction of natural habitats resulting from land development. In part, zoning or other restrictive land use regulations, if available, can be used strategically to guide compatible development on particular lands. Differential tax assessment and types of development or transfer taxes also can provide incentives for landowners to hold and conserve their land. If a government agency or conservation organization seeks to protect sensitive plant communities from incompatible development, they could acquire an easement in perpetuity by purchase, exchange, or donation.

Providing public recreation opportunities can present a more complex problem because private landowners are often reluctant to allow strangers access to their lands. This may be due to concerns about damage to crops or conflicts with privacy. To provide access for public recreation, an agency might be able to acquire an easement over a specific trail or right of way. A lease or cooperative management agreement also may provide opportunities for public use. If the area is needed for development, or recreation would conflict with private use, fee acquisition may be more cost effective.

Many of the perceived problems with alternatives to full fee purchase are due to incomplete definitions of management objectives. For example, to protect a scenic landscape it may be necessary to continue current patterns of agricultural use. Restrictions on residential development may be appropriate, but they will

not independently keep forest land from being converted to fields or pastures from being turned into feed lots. To craft a protection strategy, the land manager must first understand the components of the resource and how they fit together.

In the Sawtooth National Recreation Area, for example, some of the outstanding scenic values are created by the combination of forested slopes, rugged mountains, and grazing cattle. Although subdivision of existing ranches and extensive residential development would disrupt the scene, private ranching uses may be a part of the resource worthy of protection.

There are no firm rules for matching protection objectives with appropriate tools. Each situation must be addressed case by case to determine what will work most effectively. Figure 1 provides a matrix showing in general which tools appear to fit certain management objectives. Past experiences with success or failure are important to consider, but when funds for acquisition are in short supply, the land manager should be as creative as possible in finding new ways to protect resources.

The process of developing a protection strategy should address six basic questions:

- What public uses are planned for the land? (Public access, preservation of wildlife, protection of a scenic vista.)
- What private uses may be compatible?
- What are the current controls over uses of land which may conflict with public objectives? (Zoning, physical constraints, market conditions, regulations.)
- What, if any, additional controls are needed to assure that conflicts with public objectives are avoided?
- What, if any, interests in land need to be in public ownership to assure adequate protection of the resource?
- How can the necessary interests be acquired at lowest cost, consistent with protection of landowner rights? (Donation, exchange, outright purchase.)

The answers to these questions may reveal that private uses can be compatible with public objectives, suggesting that education efforts on sound land management practices are sufficient. If current regulations provide a level of protection that is almost adequate, but they do not provide the real assurance of permanent protection required, the regulations could be strengthened or some interest in land could be acquired. Where public access is needed and private use is incompatible, the land may need to be in public ownership, but acquisition could be through donation or exchange.

The answers to these questions provide the basic information for determining the range of tools that may do the job. However, the following additional factors should be considered in evaluating which tools may work most effectively.

Landowner attitudes and interests. Do landowners want to help protect the resources, or are they primarily interested in selling out? Are they financially and philosophically inclined to cooperate, or do they want to be left alone?

Legal authorities. Does the agency currently have authority to use the tools under consideration? Can the authority be found in general agency mandates or would new legislation be required?

Market conditions. Are economic pressures for development intense? Will legal or regulatory tools be able to withstand the economic pressures? Would tax incentives have a significant impact on landowner decisions?

Political constraints. Are the strategies under consideration politically feasible? What steps will be required to make the strategy acceptable at the local, regional, or national level?

Relative costs. What are the long and short-term costs of the different strategies under consideration? What trade-offs are involved between immediate costs for acquisition and long term costs for management, maintenance, or operation?

With these questions in mind, the next step is to consider the different categories of protection tools. The available alternatives can be seen in a spectrum involving different levels of control or interest in land.

Educational Approaches involve the least amount of direct involvement in private land decisions. Technical assistance, negotiation, mediation, and registration are examples of efforts to inform landowners about the value of their land and encourage voluntary conservation efforts.

Regulatory Approaches include the authority of state and local governments to protect public health, safety, and welfare. Zoning, subdivision regulations, air and water quality controls, and transfer of development rights programs are examples of authorities designed to prevent harm to public interests, which can also help meet federal land management objectives.

Acquisition Alternatives include variations in the type of interest acquired and the methods of acquisition. Limited interest in land can be purchased in the form of easements, leases, and deed restrictions. Other methods of acquiring fee or less-than-fee interests in land include full or partial donation and exchange.

Financing and Tax Incentives provide methods of funding necessary acquisition or encouraging retention of compatible land uses. These tools can supplement acquisition approaches or they may be considered independently as alternatives to buying land or interests in land.

A Note on Definitions

Some previous discussions of land conservation techniques have led to confusion about definitions. The categories outlined in this report are not rigid, but they are intended to help distinguish between important concepts:

- Land can be protected or conserved without public acquisition of any interest in the property. Educational and Regulatory tools do not generally involve transfers of property rights to public agencies.

Table 1 Federal Land Management Objectives and Activities
Objective Potential Management Activities

Provide opportunities for public recreation	<ol style="list-style-type: none"> 1. Allow access to land and water base 2. Public access to recreation attraction via roads, trails or waterways 3. Public use of recreation attraction 4. Campground, trail, boating facility, and parking area construction and maintenance 5. Historic building and site renovation 6. Historic tour services 7. Assure quality recreation experience by: limiting conflicting land uses; assuring good quality air and water 8. Provide continuous or reasonably spaced access points 9. Direct visitor use
Provide interpretive and educational opportunities	<ol style="list-style-type: none"> 1. Develop and maintain interpretive trails 2. Build nature centers and staff with trained personnel 3. Develop historic tours (walking, driving, carriage rides, boating) 4. Museums of natural and historical events 5. Personnel training
Preserve natural systems	<ol style="list-style-type: none"> 1. Manipulate vegetation/fauna to maintain subclimax 2. Burn vegetation 3. Remove predators, grazers, exotic species 4. Prevent commercial, residential and transportation development 5. Retain natural water regimes 6. Limit access to prevent destruction 7. Maintain buffer zones
Protect scenic vistas	<ol style="list-style-type: none"> 1. Limit incompatible land use--logging, mining, dams, utilities, high structures, roads, billboards, residential subdivisions, commercial facilities 2. Encourage desirable land use--agricultural, forestry, low-density housing developments 3. Maintain viewpoints--remove trees, brush 4. Provide access to viewpoints--roads, trails 5. Limit changes in vegetation

Table 1, cont.

Protect native plant and animal species, communities and habitats	<ol style="list-style-type: none">1. Manipulate vegetation/fauna: burning, predator removal, competitor removal2. Prevent incompatible development3. Retain (or improve) natural water quality and quantity4. Restrict access--vehicular, horse, foot5. Improve habitat6. Maintain buffer zones
Preserve for scientific study	<ol style="list-style-type: none">1. Manipulate vegetation/fauna: burning, predator removal, competitor removal2. Prevent incompatible development3. Retain (or improve) natural water quality and quantity4. Restrict access--vehicular, horse, foot5. Improve habitat6. Maintain buffer zones7. Allow access for researchers8. Allow access for science class demonstration9. Restrict other access
Protect and restore historic sites and structures	<ol style="list-style-type: none">1. Prohibit vandalism--fence, post a guard2. Restrict access and trespass3. Insure safety of structures/sites4. Renovate structures' interior and exterior5. Maintain sites and structures after renovation
Manage for multiple use	<ol style="list-style-type: none">1. Manage timber: harvest, regenerate or reforest, build roads2. Manage range: plow, seed, graze3. Manage wildlife: improve habitats, openings4. Manage watershed: vegetation manipulation, water transportation systems5. Manage for recreation: access, facilities, maintenance
Protect and recover archeological data	<ol style="list-style-type: none">1. Prevent incompatible development2. Restrict plowing or other disruptive agricultural and forestry activities3. Encourage scientific investigations4. Restrict access and other public activities

- Protection objectives can be achieved through ownership of only partial interests in land or "less-than-fee" acquisition.
- Where ownership of land or interests is necessary, the rights to be acquired can be obtained through means other than purchase with appropriated funds, as through donation or exchange.

The term "alternatives-to-fee" has been used very broadly to cover all three of these concepts. It is important to recognize the difference between the type of interest in land that might be acquired, and the way in which that interest could be obtained or paid for.

LAND MANAGEMENT AGENCY OBJECTIVES AND ACTIVITIES		ALTERNATIVES TO FEE ACQUISITION															ACQUISITION OF PARTIAL INTERESTS	ACQUISITION AT LESS THAN FULL MARKET VALUE				
		REGULATORY					ADMINISTRATIVE & FINANCIAL					EDUCATIONAL										
OBJECTIVE	POTENTIAL MANAGEMENT ACTIVITIES	1. ZONING AND LAND USE	2. AIR AND WATER POLLUTION REG.	3. TRANSFER OF DEVELOP. RIGHTS	1. DIFFERENTIAL ASSESSMT. TAX	2. LAND GAIN TAXES	3. TRANSFER & DEVELOP. TAX	4. LEASES & SPECIAL USE PERMITS	5. EIS AND *EIS REVIEW	6. COOP. MANAGEMENT AGREEMENTS	1. LOANS AND GRANTS	2. NEGOTIATION AND MEDIATION	3. REGISTRATION	4. INNOVATIVE FINANCING	5. ESTATE PLANNING	6. LAND TRUSTS/PRIVILEGE NOT FOR PROFIT ORGS	1. TECHNICAL ASSISTANCE	2. PURCHASE OF PARTIAL INTERESTS	3. PURCHASE LEASE/BACKSELL/BACK	1. FULL VALUE DONATIONS	2. BARGAIN SALES	3. EXCHANGES
A. Provide opportunities for public recreation	1. Allow access to land & water base																					
	2. Public access to & use of recreation attractions																					
	3. User facility construction & maintenance																					
	4. Historic site/building renovation																					
	5. Limit land use conflicts																					
B. Provide interpretive and educational opportunities	6. Assure good quality air and water																					
	1. Develop/maintain nature trails																					
	2. Build nature centers with trained personnel																					
	3. Develop historic tours																					
	4. Museums of natural & historic events																					
C. Preserve natural systems	5. Personnel training																					
	1. Vegetation/animal manipulation																					
	2. Remove predators, grazers, exotic species																					
	3. Prevent commercial, residential & transportation development																					
	4. Retain natural water regimes																					
D. Protect scenic vistas	5. Limit destructive access																					
	6. Maintain buffer zones																					
	1. Limit incompatible land use																					
	2. Encourage complementary land use																					
	3. Maintain & provide access to viewpoints																					
E. Protect native plant and animal species, communities & habitats	4. Limit changes in vegetation																					
	1. Vegetation/animal manipulation																					
	2. Prevent incompatible land development																					
	3. Retain/improve water quality & quantity																					
	4. Restrict access																					
F. Preserve for scientific study	5. Improve habitat																					
	6. Maintain buffer zone																					
	1. Vegetation/animal manipulation																					
	2. Prevent incompatible land development																					
	3. Retain/improve water quality & quantity																					
G. Protect & restore historic sites & structures	4. Restrict transport access																					
	5. Improve habitat																					
	6. Provide buffer zone																					
	7. Provide controlled research & educational access																					
	1. Restrict access/vandal trespass																					
H. Manage for multiple use	2. Effect structure renovation & maintenance																					
	1. Timber management																					
	2. Range management																					
	3. Wildlife management																					
	4. Watershed management																					
I. Protect & recover archaeological data	5. Recreation																					
	1. Prevent incompatible residential or commercial development																					
	2. Restrict disruptive agriculture/forestry activities																					
	3. Encourage scientific investigations																					
	4. Restrict access & other public activities																					

Figure 1 Matrix of Management Objectives, Activities, and Conservation Techniques

EDUCATIONAL APPROACHES

Technical Assistance

Technical assistance involves providing information, advice, and ideas to individuals or groups requesting help. Technical assistance efforts may be directed toward individual landowners by providing information about sound land management or conservation practices to encourage protection of natural, cultural, or recreation resources. Advice on land conservation strategies also can be directed toward local governments or organizations concerned about protecting important resources.

As a land protection technique, technical assistance relies entirely on cooperation by landowners or local government. Assistance efforts are most effective where resource protection and private economic activities may be compatible. Most of the tools discussed in this handbook could be part of a technical assistance package to be presented to interested groups or individuals.

Federal Roles

Technical assistance can involve simply responding to inquiries or undertaking complex programs including detailed handbooks or management plans. For example, state foresters and the U.S. Forest Service provide technical assistance in land management to owners of forest lands, and agricultural extension agents and the Soil Conservation Service assist farmers. Through these programs, federal and state agents improve private land management and resource utilization practices. They prepare formal management plans and are generally available for consultation. Additional expertise on harvesting and planting schedules, up-to-date sale prices, and economic factors are also frequently available. Technical assistance from the Soil Conservation Service may be sufficient to reduce erosion or sedimentation, and adverse impacts on water quality.

The National Park Service provides technical assistance in historic preservation, as do the state historic preservation officers. Information available to property owners covers topics ranging from recommended building materials and restoration techniques to contractors experienced in restoration. Financial incentives in the form of tax breaks and low cost rehabilitation loans are also available to owners of eligible structures.

Many possibilities exist for expanding current programs or developing new ones that can increase assistance activities to landowners. For example, Fish and Wildlife Service objectives, such as habitat protection for migratory and

endangered species, are partially achieved by working with private landowners through state natural resource departments. State agencies frequently assist landowners by estimating wildlife populations, improving fish and wildlife habitat, and setting take limits. Federal monies from excise taxes on fishing and hunting supplies provide much of the state money for such programs. Federal agencies also can assist state and local governments in exercising their authorities over land development by advising about innovative management tools.

Advantages and Disadvantages

The major advantage of technical assistance programs is that private land managers are provided with sound resource conservation and management advice, which when practiced, complements management of federal objectives. Compared to acquisition, the cost of technical assistance is minimal. Another distinct advantage is that the land can remain in private ownership.

Technical assistance efforts are not likely to be effective in stopping development when economic pressures are intense. Like other education efforts, there is no legally binding assurance of permanent protection. However, landowners may find that sound management practices produce a greater profit as well as protect federal management interests.

References

For more information, write

U.S. Department of Agriculture, Forest Service Information Division, Washington, D.C. 20250.

U.S. Department of the Interior, National Park Service Information Exchange (natural resources) or Division of Technical Preservation Services (historic resources), Washington, D.C. 20240.

State agricultural extension agents, U.S. Department of Agriculture.

State Land Grant Universities, Rural Development Centers and State Natural Resource Agencies for specialized management assistance.

State historic preservation officers, most of whom have their offices in the state capital.

Cooperative Management Agreements

Cooperative management agreements are resolutions between two or more parties for giving and receiving assistance. Assistance can take the form of financial, technical, product, or access agreements. It can be given free, for a fee, or through the exchange of services. Agreements between landowners and interested parties range from informal arrangements to detailed contracts.

Nearly all voluntary land and historic preservation programs have agreements with property owners to maintain the integrity of their lands and structures. In return, federal agencies provide technical assistance and management recommendations for maintaining and enhancing natural and historic features.

Federal land managing agencies have a wide range of cooperative management agreements with private landowners, states, and other federal agencies. The bulk of the agreements involve technical assistance programs or other means for resolving or avoiding conflicts between neighboring lands. Federal programs that exemplify cooperative management agreements are habitat protection efforts of the Fish and Wildlife Service and the Water Bank Program administered by the Agricultural Stabilization and Conservation Service. Although in some cases the government pays landowners not to develop their lands or otherwise destroy valuable wildlife habitat, in other cases the government develops conservation plans and sometimes pays for needed improvements. These cooperative management agreements benefit both parties. The landowners maintain possession of their lands while the agencies protect and improve wildlife habitat.

Several states operate similar programs for improving wildlife habitat on private lands. The programs either pay the landowners directly or provide improvements to the wildlife habitat. In return for assistance, landowners allow public access to their lands for hunting or fishing. For example, North Carolina's RENEW program (Renewed Emphasis Now on an Environment for Wildlife) increases land available for hunting near metropolitan areas. Property owners agree to open these lands to the public in exchange for state-funded wildlife habitat improvements. Several agencies in the Department of Agriculture---the Soil Conservation Service, Agricultural Stabilization and Conservation Service, and Forest Service---provide technical assistance to farmers and forest landowners. These programs often take the form of cooperative management agreements that emphasize partnerships between federal agencies and private citizens. An extensive system of cooperative management agreements protects the 2,100 miles of the Appalachian Trail. Agreements between the National Park Service, the Forest Service and 31 trail clubs and their affiliates assign sections of the trail to the clubs for projects such as maintenance, construction, emergency search and rescue, and information and education activities.

Federal Roles

Federal agencies interested in scenic vista protection, provision of recreational opportunities, and historic site and structure restoration offer a wide variety of technical assistance and cooperative activities to help landowners manage their lands. Most of these programs, however, require little or no guarantee that the landowners will follow the suggestions or management plans. By assisting property owners to manage their lands, and by encouraging sound conservation and management practices, federal land managers help the owners, their neighbors, and the general public. Federal agencies also can enter into cooperative agreements with state or local governments. For example, a federal agency could agree to provide interpretive services on an historic site if the state or local government accepted responsibility for maintenance or trash collection.

Advantages and Disadvantages

Cooperative agreements can be relatively inexpensive to develop and maintain. Many federal agencies provide technical assistance to private property owners as routine functions of their programs. Most technical, and in some cases financial, assistance programs are provided to the property owners with few requirements for landowners. Cooperative agreements also can relieve federal agencies from the expense of maintaining trails, open space, or historic structures, while allowing opportunities for interpretation or public access.

The primary drawback to this technique is that cooperative agreements generally lack the stringency of contracts and may be broken within a specified notice period (typically 60 to 90 days). Cooperative agreements usually lack the assurance of permanent protection provided by acquisition of an interest in land. Nonetheless, cooperative agreements can be specified in legally binding contracts.

Negotiation, Mediation, and Arbitration

Negotiation, mediation and, to a lesser extent, arbitration, are techniques for resolving land management conflicts. These processes may also be used in conjunction with other fee and less-than-fee acquisition programs.

Negotiation is a voluntary process that allows disputing parties to confer and exchange viewpoints, with the ultimate goal of attaining resolution of the problem. The results may be total consensus, when all issues are resolved, or partial consensus.

Mediation is a part of the negotiation process that helps parties reach an agreement. The negotiations are conducted by a mediator who assists the parties in coming to an agreement. Because negotiation and mediation are entered into voluntarily, the disputing parties wield complete control over the discussion agenda and retain the right to withdraw from the process at any time. Once a complete or partial consensus is reached, the agreement represents a contract that is subject to monitoring and enforcement by the parties who sign it. Independent mediators and facilitators carry no ultimate binding authority to resolve the dispute(s), even though their roles are often critical to achieving a settlement.

Arbitration offers a similar approach to resolving conflicts between parties with one major difference: arbitrators make independent decisions that are binding on the participants. Prior to initiating an arbitration process, the disputing sides agree to honor the decision of the arbitrator or arbitration board. Consequently, there are fewer opportunities for participants to withdraw from arbitration than from mediation or negotiation.

An agency's framework for arbitration is often dictated by administrative procedures and tends to be less flexible than negotiation and mediation approaches. Formality is generally the rule in arbitration, whereas negotiation may be more informal, particularly in terms of its adaptability to specific dispute settings.

Application

Negotiation, mediation, and arbitration can be effective tools in a variety of situations. The most frequent disputes between federal agencies and private landowners are over development practices that threaten federal interests. Conflicts over land uses often cause federal agencies to seek control over neighboring private lands either by purchasing the land or encouraging more stringent regulations.

For example, an inholder within the boundaries of a national park might keep dogs unleashed, thereby creating a nuisance for park users. Or a developer might propose a subdivision next to a national park or national forest, thus displacing or impounding a surface stream containing sensitive aquatic resources.

Short of acquiring partial or full title in these areas, a federal agency could informally negotiate to halt or alter the behavior of a private landowner. In the case of the unleashed dogs, an agreement could be reached through talks between the landowner and the park superintendent. Negotiations could produce long-term cooperation between the federal agency and landowner. In the case of the proposed development, negotiations might result in the formulation of a plan acceptable to both the developer and the federal agency. The experience of professional negotiators in natural resource issues demonstrates that the adverse effects of most development proposals can be successfully mitigated if negotiations begin early in the planning stages. Furthermore, the negotiation and mediation processes allow for consideration of the whole range of techniques discussed in this handbook.

Generally, the negotiation and mediation options available to a federal agency far exceed those of arbitration. Formal arbitration of fairly simple, straightforward disputes seems unwarranted when an agency can resolve land management conflicts by imaginative and flexible means. However, should the complexity of an issue require more structured negotiation or authoritative settlement, arbitration may be warranted.

Once the preferred method of settling a dispute has been determined, numerous options are available to the federal agency. In the case of negotiation and mediation, a staff person could be appointed to coordinate all contacts with a private landowner. Local officials and community groups can provide valuable assistance in identifying parties amenable to a negotiated settlement. Conversely, a nongovernmental person or group, including one of the many organizations specializing in mediating environmental disputes, could be contracted to facilitate agency and private party transactions. A number of such organizations have already been involved in resolving issues related to land use planning and management. Recently, federal land managing agencies have begun to offer conflict management training to their own field staff.

Federal agency incentives for initiating negotiation, mediation, or arbitration procedures depend on a variety of factors; the nature and complexity of the issue(s) at hand are important considerations. Although land planning conflicts are usually inevitable, not all disputes will be amenable to informal negotiation or mediation. Controversies may be so complex or intractable that only formal resolution will suffice. It is also conceivable that neither negotiation nor arbitration can facilitate a settlement, thus paving the way for alternative,

possibly judicial, approaches. The character of a dispute helps govern the choice of an appropriate resolution mechanism. Federal land managers should have a thorough understanding of the elements of the dispute, the parties involved, and the deadline by which a decision is desired.

Prior agency experience in resolving disputes will influence perception of and participation in negotiation, mediation, or arbitration. In some cases, innovative negotiation techniques are totally foreign to agency personnel. The agency should also analyze the extent to which identical or similar conflict resolution techniques already exist within its administrative framework and programs. This review helps identify disputes not amenable to mediation. It can also identify legal obstacles, and can help avoid procedural duplication.

Time and cost are critical elements in choosing one resolution technique over another. One prime concern of a federal agency is whether or not prospective benefits of negotiation, mediation, and arbitration (or combinations thereof) outweigh the costs of participation. Also at issue is the extent to which program objectives can be substantively enhanced by negotiation, mediation, or arbitration as compared to alternative approaches such as acquisition of fee or other interests in land.

Generally, arbitration is a more formal and rigid process than negotiation or mediation. Because it is not as flexible, arbitration cannot be used as effectively as negotiation and mediation. Since arbitration carries the force of law, however, it offers more certainty in reaching a settlement than the other processes.

Advantages and Disadvantages

Negotiation and mediation have the potential for resolving land use issues quickly. Communications can be initiated at many levels and may incorporate the views of disputing parties on an informal basis. Another advantage of negotiated settlements is the short-term savings in time and effort. As issues grow more complex, this relative advantage decreases, and more expensive procedures such as arbitration may become necessary.

Inevitably, there are instances where federal agencies come into conflict with private landowners and developers within or near their jurisdictions. Negotiation and mediation techniques can help clarify the real needs and objectives of both parties and resolve disputes without great cost or delay. In addition to discouraging unnecessary acquisition, federal agencies can build better relationships with their neighbors on a continuing basis and enhance opportunities for more compatible private land use decisions.

These techniques obviously are limited to situations in which landowners or other parties are willing to negotiate. These tools cannot usually provide long-term opportunities for public access or management, but they can lead to other forms of protection.

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Mernitz, Scott. Mediation of Environmental Disputes. New York: Praeger Publishing, 1980.

Emrich, Wendy. New Approaches to Managing Environmental Conflict: How Can the Federal Government Use Them? Washington, D.C.: Council on Environmental Quality. 1980.

The Conservation Foundation. Resolve: A Quarterly Newsletter on Environmental Dispute Resolution.

Registration

Registration is the formal recognition of a significant natural or cultural resource by a government agency or private commission. A variety of state, local, private and federal registers confer designation on a specific resource and thus give it visibility and a certain degree of protection.

Currently there are two federal registers administered by the Department of the Interior, which are generally applicable to resource preservation.

The National Register of Historic Places recognizes districts, sites, buildings, structures and objects significant in American history, architecture, archeology and culture at the national, state and local levels. The National Natural Landmark Program provides a similar register of unique natural features with outstanding botanical, zoological, geological or scientific characteristics. The objectives of both registers are to recognize publicly significant natural and historic features, and to protect and enhance those features worthy of recognition.

Tax benefits are available for qualifying historic properties. Registration is typically permanent (provided the integrity of the resource is maintained), but is not legally binding and is not included as a restriction on the property deed.

Application

The National Register of Historic Places is administered by the National Park Service. Nominations to the National Register are submitted by state historic preservation officers and by federal agencies.

The National Park Service also administers the National Natural Landmark Program. The agency develops regional inventories of potential national natural landmarks to identify specific areas worthy of registration. The program relies heavily on local experts and state natural heritage programs.

The registration process usually involves inventory and site analysis. This process brings together historical and scientific information for review by a publicly-approved board. This recognition highlights the significance of the list, and is the most valuable part of the registration process.

The owners of significant natural and historic properties receive no public financial assistance unless tax relief or improvement funds are available. Registration programs rely on property owner cooperation to maintain the integrity of the resource. To many landmark or historic site owners, recognition is sufficient incentive to encourage them to preserve the resource.

Registration on either the National Register of Historic Places or the Register of National Natural Landmarks is not a binding legal contract. The registrant or future property owners may at any time alter the properties or natural characteristics, although such alterations might result in the property being removed from the register if the integrity of the resource is destroyed. (Tax disincentives discourage the destruction of income-producing properties on the National Register of Historic Places.)

Using other preservation techniques in conjunction with registration will help maintain the integrity of registered properties. For example, obtaining conservation or historic easements on applicable properties can prevent the alteration of registered sites. Strong historic zoning could also help maintain the integrity of areas with registered historic structures.

Registration provides historic sites with some protection from the adverse impacts of federal and federally assisted projects. State historic preservation officers comment on the impacts of federal activities within their states. These comments, with comments from the federal agency, form the basis of the review by the Advisory Council on Historic Preservation under Section 106 of the National Historic Preservation Act. The Council's comments are transmitted to the federal agency for its consideration. While the Council's findings are not binding, its comments have generally been taken into account by the federal agency involved.

Federal Roles

National registration programs are integral components of the National Park Service's efforts to preserve outstanding natural features and to protect and restore historic sites and structures. National historic parks, such as those found at Harpers Ferry, West Virginia, and Lowell, Massachusetts, contain numerous nationally registered historic structures that are part of the park management system. Registered historic structures and natural landmarks that are not part of or near national parks, forests, or wildlife refuges protect the cultural or natural heritage. They also provide opportunities for public education and heritage appreciation wherever they are located.

Advantages and Disadvantages

Registration of significant cultural and natural resources encourages private property owners to restore and maintain important features with little cost to federal, state, or local registration agencies. The principal advantage of the registration process is its ability to identify and to publicize valuable historic, natural, or scientific sites. With advance notice of what sites are considered to be important, developers may be encouraged to adjust their plans to minimize adverse impacts. Another major advantage is that government agencies

administering these registers can upgrade land use and private land management practice while the land remains in private ownership.

The major drawback to registration is that it does not prevent current or future owners from deciding to disrupt or destroy the registered resources. Registration agreements rely on landowner cooperation, supported by some tax incentives and provisions for review of federal projects, to maintain the resources.

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Program Coordination: Environmental Impact Statements and A-95 Reviews

Land and water management can be influenced by various intergovernmental coordination and review programs. Two of the most prominent mechanisms are the Environmental Impact Statement (EIS) and the Project Notification and Review System established by OMB Circular A-95.

The National Environmental Policy Act (NEPA) of 1969 requires federal agencies to prepare an Environmental Impact Statement for all significant federal actions affecting the human environment. The EIS assesses potential adverse or beneficial effects (ecological and socio-economic) of a proposed project and alternative actions. All federal agencies have the opportunity to comment on proposed actions for which an EIS is prepared.

A number of states have instituted similar legislation requiring the identification and evaluation of prospective environmental impacts. Environmental impact assessment requirements also exist at the local level to screen development projects. Federal agencies are regularly consulted on major state projects and, to a minimal extent, on locally proposed actions. Federal sponsorship of projects will almost automatically require federal agency participation.

The A-95 project notification and review system is another type of intergovernmental coordination mechanism. The process provides for the review of proposed federally initiated or assisted projects at the state and substate regional level. Among its objectives are encouragement of comprehensive planning and a clearer perspective on the relationship of a project to state and regional plans and programs. Like the EIS process, the A-95 review identifies potential problems, conflicts, and mitigation options prior to construction.

The A-95 review process is usually initiated when a state areawide clearinghouse receives either a federal notice to carry out a project or an intent to apply for federal loans, grants, or other assistance. The clearinghouse identifies various state and local jurisdictions likely to be affected by the proposal and solicits their

comments. Subsequently, all potential problems can be discussed and possibly negotiated with the applicant before the action is initiated.

EIS, A-95, and the Federal Manager

The EIS provides an opportunity to participate in, and exert influence upon, decisions concerning a specific development or program action. For example, the National Park Service would be consulted by the U.S. Department of Transportation if the latter were considering highway construction near sensitive Park Service lands. Through an EIS, the Park Service could comment on the proposal and argue for either no action or an alternative that is less threatening to Park Service interests.

In addition to reviewing other federally proposed actions, land managing agencies can participate in state and local EIS procedures.

Federal land managing agencies may use the EIS as a mechanism for discouraging potentially incompatible plans and programs initiated by other federal, state, and local agencies. As such, they could support a "no-action" alternative. However, the chance to mitigate the adverse consequences of an undesirable development project before construction begins or to influence the choice of a more acceptable alternative represents the greatest incentive for federal agency participation.

A-95 reviews and coordinating mechanisms discourage duplicative, conflicting, or unnecessary projects. Federal agencies can also gain valuable knowledge about various interrelated and compatible programs before deciding on proposed projects and applications for recreational area acquisitions, capital equipment purchases, or management personnel. Recent efforts to protect barrier islands revealed many examples of how federal loans, grants, and guarantees have been working at cross purposes with conservation objectives and a sound public investment policy.

Advantages and Disadvantages

Participation in EIS or A-95 reviews is usually an advisory function; agency comments are not binding or enforceable. However, these coordinating procedures can help mitigate adverse impacts of proposed development and reduce the need to acquire land to protect a management unit from a federally financed project. In some cases, the first step in meeting a federal protection objective is simply to avoid actions by other federal agencies which may harm the resource.

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REGULATORY APPROACHES

Zoning

Zoning is the division of a municipality or county into districts for the purpose of regulating the use of land. The regulations pertaining to each district are set forth in a zoning text and the districts to which they apply are delineated on a map. Together, the zoning text and the zoning map constitute the zoning ordinance. Once an ordinance has been adopted by the local government, its provisions are legally binding on all landowners.

Generally, a zoning ordinance specifies the uses permitted in each district, the minimum allowable lot sizes, and the maximum bulk of buildings and their minimum setback from property lines. Other requirements for development are also detailed in the ordinance.

Specific types of zoning districts that are of particular interest to federal land managers are briefly described below.

Agricultural Zoning. Agricultural zoning is intended to preserve agriculture as a permanent land use. The most important characteristic of an agricultural zoning ordinance is the extent to which it limits the intrusion of new, nonagricultural uses (usually nonfarm dwellings) and requires a large minimum lot size (20-160 acres).

Forestry Zoning. Forestry zoning is similar to agricultural zoning in that land uses other than forestry are sharply limited and minimum lot sizes are large.

Floodplain/Wetland Zoning. Floodplain zoning regulations control uses of land within hydrologically defined areas subject to floods of a designated frequency. Essentially they establish a flood set-back rule for most development. Most local floodplain zoning ordinances have been stimulated by the National Flood Insurance Program and are consistent with its requirements. They usually establish a gradient of restrictions within the floodplain area, which decreases in severity at the floodplain's fringes.

Historic Area Zoning. A growing number of communities have established historic districts to preserve the integrity of the area, as well as that of individual buildings. In such districts, there can be stringent controls on building exteriors and surrounding spaces with more flexible limitations on the uses of the buildings.

Billboard and Sign Controls. Zoning ordinances often regulate the location, size, height, materials, and lighting of billboards and signs. Sometimes such regulation

is the subject of a separate ordinance. Billboards along interstate highways are regulated by the Federal Highway Act of 1965.

Cluster Zoning. Most zoning ordinances specify minimum lot sizes for residential uses. Cluster zoning allows residential units to be placed more closely together than normally permitted, but requires more area to remain in open space. Although the density may remain the same, it is concentrated on one portion of the tract. (See Figure 2.)

Performance Zoning. Most traditional zoning is based on minimum sized lots on which certain types and levels of uses are permitted. In contrast, performance zoning allows flexibility in design as long as certain standards are met. It has been applied to industrial zones where any industry is permitted as long as its effluents do not exceed certain limits, and to residential development in the form of planned unit development. Typically, performance standards are expressed as ratios of open space, density, and floor area. As long as the standards are met, development can be clustered in one or more parts of the tract, leaving other areas in natural cover.

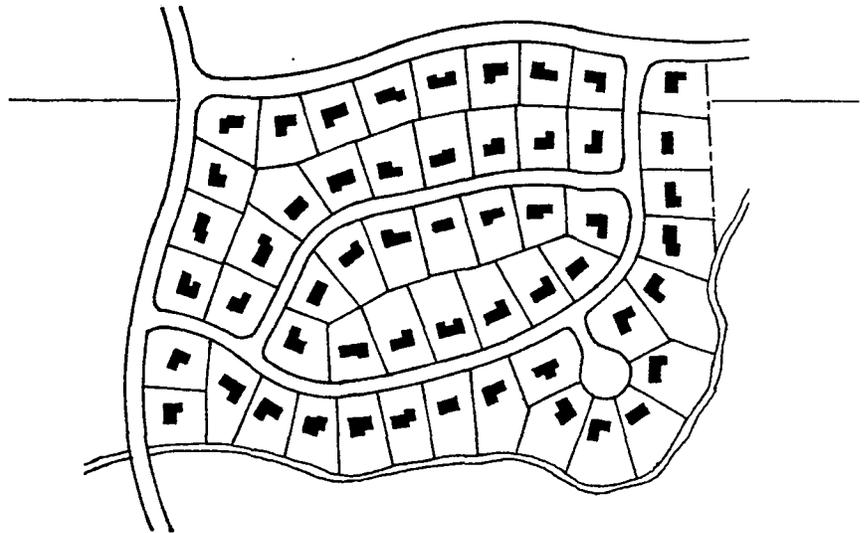
Application

The use of zoning powers by state and local governments has been specifically incorporated into several units of the National Park System. For example, legislation establishing the Cape Cod National Seashore limits the authority to condemn private residential properties as long as local zoning ordinances are in effect. The ordinances must meet standards set by the Secretary of the Interior and if variances or exceptions are granted by the local government, condemnation could be initiated. Similar provisions were included in authorizing legislation for Fire Island National Seashore, Sleeping Bear Dunes National Lakeshore, and the Whiskeytown-Shasta-Trinity National Recreation Area. Authorizing legislation for Ebey's Landing National Historical Reserve allows for complete transfer of management responsibilities from the federal government to the state or local governments if the Secretary of the Interior finds that adequate local zoning ordinances have been enacted.

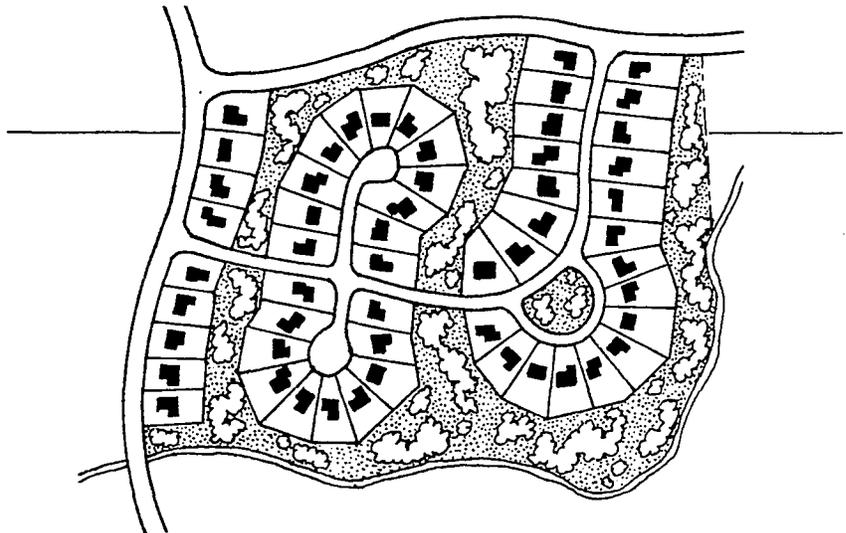
The plight of Gettysburg National Military Park dramatically illustrates the importance of local zoning decisions to federal units. A tourist destination from almost the first moment the fighting ceased, the battlefield is now engulfed by facilities catering to the enormous number of visitors. According to a 1977 report by the federal Advisory Council on Historic Preservation, "Steinwehr Avenue at the foot of Cemetery Hill is becoming one great fast-food complex, a monument to the importance of the hamburger in American life." No other facility, however, has had the impact of the privately developed observation tower that stares down on the site where Abraham Lincoln stood. This 307-foot "National Tower" was the object of intense controversy and prolonged legal battles. In the absence of zoning prohibiting such developments, the tower was built, and offers what its promotional literature describes as an "unforgettable" view of the battlefield. Likewise, the battlefield now offers its visitors an equally unforgettable view of the tower.

Cluster development

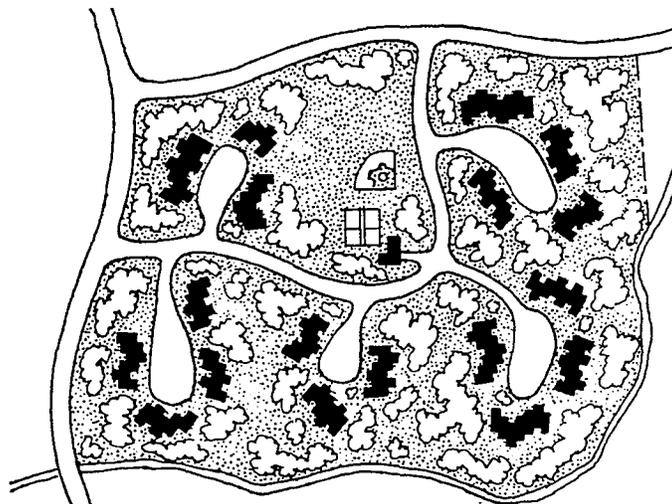
Traditional single family lot subdivision compared to clustered townhouse development layout



Site: 30 acres; 54-lot subdivision



Cluster development: 54 lots



Cluster development: 112 townhouses

Figure 2 Cluster Development

Source: Allen Carroll, *Developer's Handbook*
State of Connecticut Department of Environmental
Protection, Coastal Area Management Program

Federal Roles

Zoning is essentially a form of the "police power" of the state or local government to protect public health, safety, and welfare. Zoning developed as a method of protecting the interests of one property owner from harm due to uses of other adjacent or nearby properties. At the most basic level, federal land managers may consider zoning as would any other property owner. In this light, local zoning is a basic tool for preventing harm to property under your jurisdiction.

The federal land manager's interest in zoning is centered on how adjoining land is zoned and on how other nearby lands with important resource values can be protected without federal acquisition. Typically, the manager wishes to protect the federal land from nearby development that would have adverse environmental, ecological, or aesthetic effects. Managers of parks and wildlife areas may want to maintain buffer areas of generally rural character between the federal land and developed areas. Managers of historic sites may wish to maintain surrounding land in aesthetically compatible uses. The manager may also want to protect environmentally valuable lands which do not adjoin federally owned land. In many cases, environmental values may be protected through zoning regulations and the land can remain in private ownership and use.

Federal participation in local zoning activities can take place at several points in the process. First, federal managers can help define goals and objectives in the local comprehensive plan which will guide zoning decisions. Once a plan is adopted, efforts can be directed to assuring that the zoning ordinance conforms to the plan. Most ordinances specify certain permissible uses in different districts and allow other uses as a special exception. Variances also may be granted, waiving strict application of zoning standards to avoid hardships.

By monitoring local zoning activities, federal land managers can be aware of proposed changes that may adversely impact the area. Representatives of the management agency can participate in hearings and meetings on proposed rezonings, variances, or exceptions to explain their concerns. However, agency officials should make a clear distinction between what land may be protected by existing local regulations and land intended for acquisition. Federal involvement in local zoning matters should be a cooperative effort, not a confrontation, and be coordinated with sound legal advice to avoid charges of efforts to reduce property values on land that is planned for public purchase.

Advantages and Disadvantages

Local zoning regulations can effectively control development without the direct costs of acquiring land or interest in land. Cooperation with local zoning authorities is most likely to meet federal management objectives when some reasonable economic uses of land are compatible with protection needs. Local interests in reducing costs for public services or protecting natural values frequently coincide with federal management objectives and can lead to zoning decisions which avoid the need for other forms of protection.

However, local political situations may change, and zoning does not provide the assurance of permanent protection offered by ownership of some interest in land. Federal involvement in local zoning issues may be controversial and time-consuming. Zoning also will not provide opportunities for public use and access.

Zoning to prohibit rather than control or guide development also is not so likely to withstand economic and political pressures for change.

Generalizations about the ability of zoning to "work" are frequently misleading. While some counties effectively have no zoning regulations, others have exceptionally strong and complex zoning controls over all types of private land use. In many areas, zoning has been quite effective in determining the shape and character of development. By encouraging compatible uses of land through appropriate zoning regulations, federal managers may avoid many potential conflicts over development within and outside of management unit boundaries.

Subdivision Regulations

Subdivision regulations control the creation of smaller lots from larger parcels of land. While zoning regulations control the uses and type of building that can take place, subdivision regulations control the physical layout of new development. Subdivision regulations establish standards such as lot size, water and sewer service, width and location of streets, and sites for public facilities, including parks.

Local governments use subdivision regulations to assure an orderly pattern of urban development. Some concerns are simply to make certain that streets connect and meet minimum standards. However, local governments also may consider the impact of a proposed subdivision on public services such as police, fire, schools, parks, and water supply.

Some local governments have incorporated "mandatory dedication" requirements into their subdivision regulations. These provisions allow the local government to require that developers dedicate land, pay fees, or provide services to meet public needs as a condition of approving subdivision plans. These provisions are often used to require dedication of land for parks, schools, and other public facilities. For example, Fairfax County, Virginia, has acquired more than 4,000 acres valued at more than \$75 million for park use through a combination of cluster zoning and mandatory dedication requirements.

Application

Federal land managers concerned about impacts of adjacent development should be aware of subdivision regulations as well as local zoning. Controls over storm water runoff, for example, may be found in the subdivision ordinance and could help avoid pollution of a stream flowing through the management unit. By working with local government subdivision controls, it also may be possible to assure that development adjacent to a park or refuge is adequately served by water, sewer, and other utilities so that natural resources will not be damaged.

Mandatory dedication requirements also can be used to bring land into public ownership. Land dedicated to the local government as part of a subdivision might be designed to connect to trails leading to a federal management unit, or create a buffer between the private development and federal land. Where public access is the primary management objective, a large lot subdivision with trails dedicated to public use may be preferable to a farm in private ownership with no trespassing signs posted.

Advantages and Disadvantages

As with zoning, subdivision controls involve no direct cost to the federal government. They are another example of local efforts to protect health, safety, and welfare which also may help protect federal interests. Coupled with requirements for dedication, subdivision regulations may also provide a source of land for parks and recreation.

In many rural areas, subdivision regulations are extremely loose and may be a simple procedural requirement rather than a really effective control over land development. Local political pressures may bring rapid changes in these regulations or grant exceptions. Nevertheless, requirements for approval of subdivision plans provide a valuable opportunity to negotiate with developers about the size, scope, shape, and character of their proposals.

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Transferable Development Rights

The concept of transferable development rights (TDRs) separates development potential from the land and treats it as an item that can be sold or traded. The TDR concept evolved from relatively simple cluster zoning and planned unit development experiences. In these examples, development densities are concentrated on one portion of a tract, leaving the rest in open space or low intensity uses. The TDR concept extends this idea to allow transfers of density between tracts of land that may be in different ownership.

A TDR program works through zoning regulations limiting the height or intensity of development in one area and allowing increased height or density in another area. Certain areas are designated as conservation or "sending" areas where development is to be limited. Other areas suitable for more intense development are designated as transfer zones or "receiving areas." Within the receiving area there is a certain density of development allowed (six stories or five units per acre, for example), but this density may be exceeded if the owner purchases a specified number of development rights from the "sending" area. A landowner in the sending area can sell a specified number of rights based upon the amount of land owned. Once sold, the right to develop is severed from the property, and in most cases this is recorded as an easement or restriction on the deed.

Application of the TDR concept is best explained by considering two representative examples. In the case of historic property in an urban area, the

structure's height and bulk may be much less than allowed by current zoning ordinances. Economic forces to use the full potential of the land may lead to the demolition of the structure to make way for an office building using the maximum "envelope" of the current zoning. A TDR program would allow the owner of the historic structure to sell rights to build to the maximum density. The owner of a lot in a designated receiving area could purchase these rights and receive an increase in the allowable height or bulk of construction.

In the rural context, TDRs can concentrate development in areas with adequate public facilities. An owner of a 100-acre farm may have "rights" to develop fifty 2-acre lots under current controls. An owner of another 50-acre parcel closer to town and already served by public water and sewer might have the right to develop fifty one-acre lots. A TDR program could allow the owner of the farm to sell his right to develop fifty units to the owner of the smaller parcel closer to town. With these rights in hand, one hundred units on half-acre lots could be built on the 50-acre tract. The value of the development rights would be determined by the private market.

Several state and local governments have used TDR programs in efforts to protect agricultural land and open space. The Pinelands National Reserve incorporates a development credit program as part of the comprehensive management plan developed by the State of New Jersey. This program is designed to protect a "core area" with outstanding natural values while allowing development to occur in other, less sensitive areas. Montgomery County, Maryland, also has a notable TDR program designed to protect approximately 88,000 acres of farmland by concentrating new development in areas already served by public facilities.

Applications

TDR programs have been devised to meet a variety of objectives: urban architectural and historic landmark preservation, agricultural and open space protection, growth control, environmental protection, and comprehensive land use planning.

Chicago and New York City have instituted the two most widely discussed examples of TDR concepts in urban areas. Both programs focus on historic or architectural landmark protection. Although highly sophisticated in theory, Chicago's TDR program has never been implemented. New York, on the other hand, has had substantial success in preserving landmarks.

The New York City TDR program was the basis of a United States Supreme Court decision (Penn Central Transportation Company v. City of New York, 26 June, 1978). Penn Central Transportation Company, owner of the landmark Penn Central Station, was not permitted to build a structure above and behind that landmark. The company sued, arguing that the city's landmark ordinance had in effect taken its property for public use without compensation, in violation of the Fifth Amendment to the U.S. Constitution. The city's TDR program, however, allowed the company to transfer the right to build onto the station to another Penn Central building that was already built up to the maximum allowed by zoning. The Supreme Court ruled that the city's program did not represent a "taking" of private property. The city's landmark ordinance and its TDR program were thus upheld.

The TDR frameworks of both New York and Chicago assume that the marketability of unused height and density surpluses can preserve architecturally valuable structures. Private purchasers of surplus development rights could conceivably utilize them on other sites designated by government as "transfer districts." Alternatively, a development rights bank has been explored in the Chicago Plan. This bank would "buy" the rights as they become available, and then resell the rights to parties who seek project approvals for densities above current limits.

TDRs and the Federal Manager

States and local TDR programs can advance federal land management agency objectives under certain circumstances. In cities, there is an opportunity to complement historical preservation and urban open space programs. In outlying zones, federal agencies could benefit from TDR programs that preserve open space and agricultural land uses near national parks and federal resource land.

Advantages and Disadvantages

Unlike many other land protection strategies, TDRs permit growth, but they direct that growth to areas that can withstand further development. At the same time, such programs provide a mechanism for compensating private landowners when restrictions are placed on their property. Such programs, therefore, when properly understood, can help lessen resistance to attempts to protect significant areas. By relying on the private market, a TDR program can avoid the need for public acquisition of land or interests in land.

TDRs are very complex and can only work effectively in an area with tight zoning regulations where development pressure exists. Substantial efforts to educate property owners and overcome political sensitivities also are needed.

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Air and Water Pollution Controls

Federal, state, and local air quality, water quality, and hazardous waste disposal regulations restrict the discharge of pollutants into the environment. The most notable federal air, water, and hazardous waste laws enacted in recent years are the Clean Air Act, Clean Water Act and Resource Conservation and Recovery Act. State and local governments also administer comparable laws that may be of use to federal land managers seeking to protect resource lands from damage resulting from external sources.

Under the Clean Air Act federal land managing agencies must classify their holdings into three categories for which specific air quality standards are recommended: Class I, Class II, and Class III. EPA air quality standards assure the least polluted air in Class I areas. The EPA's regional offices, in coordination with state air quality officials, administer Prevention of Significant Deterioration programs and review most development permit applications likely to affect classified areas. If the EPA determines that an assessment of air quality impacts is warranted, a land management agency can review and comment on the proposed activity. This process allows federal land managers to influence potential sources of pollutant emissions on federal as well as nearby nonfederal lands under private ownership.

The Clean Water Act contains EPA permit review provisions that concern federal land managing agencies. Foremost among these is the National Pollutant Discharge Emission System which requires an emission permit for all proposed point source discharges of pollutants into inland and coastal waters. The EPA can either exercise permit granting authority directly or, where an approved water quality management plan exists, delegate permitting authority to the appropriate state government authority. This permit framework offers another opportunity for participation by federal land agencies whose resource management interests may be adversely affected by proposed discharges within or near their jurisdictions.

Under provisions of the Safe Drinking Water Act, EPA also can help block federally financed or permitted development that would adversely impact designated aquifers which are the sole source for domestic water supplies.

Section 404 of the Water Pollution Control Act of 1972 also regulates the discharge of dredged or fill material into navigable waters and adjacent wetlands. The Corps of Engineers is responsible for administering a permit program to control disruption of wetlands, considering impacts on wildlife, water quality, economic factors, and natural values. The Fish and Wildlife Coordination Act, which directs the Corps to give equal consideration to fish and wildlife values in considering permit applications, has been a useful tool for achieving protection objectives.

The Resource Conservation and Recovery Act regulates the transportation, storage, and disposal of hazardous wastes. This act also assigns EPA the task of developing a national program to plan and manage the transportation, storage, and disposal of these materials. Like EPA's air and water pollution programs, enforcement is based on a case-by-case permit process. Ultimately, approved state hazardous waste plans should allow decentralized permit administration with overall EPA guidance.

Environmental Regulations and the Federal Manager

The following issues may warrant federal land manager involvement in federal, state, and local environmental regulatory programs:

- Location of heavy industry or energy generation facilities.
- Proposed use of lands for mineral extraction or processing.
- Automobile congestion and resultant air quality degradation.
- Untreated or inadequately treated municipal or industrial wastewater discharges.
- Toxic chemical storage or disposal sites.
- Dredging or filling of wetlands.

Land managers concerned about these and other pollution matters should contact their regional EPA representatives and state counterparts for further information. They should also comment on the revisions of any state reclassification proposals, implementation plans, and related local programs, so that land management concerns are reflected in any reclassification. Cooperation with the Corps of Engineers and state or local agencies also can help protect wetland areas.

When federal funding is proposed for a specific facility, for example, agencies may review and comment on accompanying Environmental Impact Statements. If EPA has delegated permit authority to a state government, the relevant federal land agency may or may not be consulted.

The influence exerted by a federal agency in specific EPA permit granting contexts will vary. For example, the National Park Service was consulted in a recent EPA air quality review of a Coors Brewing Company application to build a plant within one mile of Shenandoah National Park, Virginia, which lies within a Class I area. The National Park Service was concerned about possible adverse air quality impacts given the proposed facility's proximity to a Class I zone. The EPA's final decision was to approve the project with air quality permit stipulations on mandatory pollution control technology and the protection of the area's soil, vegetation, and visual quality.

In the Grand Canyon, the National Park Service is also identifying "integral" vistas susceptible to air quality degradation. These vistas must be considered in devising adequate protective strategies within a state implementation plan.

A proposed Pittston Oil Company refinery in Eastport, Maine, was denied EPA permits following lengthy and repeated federal EIS proceedings. A major opponent to the EPA permit was the U.S. Fish and Wildlife Service, which managed a nearby national wildlife refuge inhabited by the endangered bald eagle. The Fish and Wildlife Service routinely participates in decisions about 404 permits and often succeeds in getting development plans modified to reduce adverse impacts on wildlife habitat.

For the most part, participation in EPA regulatory procedures will be important for land managers whose jurisdictions lie in the "shadow" of adjacent or nearby development projects.

Federal land management agencies may disagree with each other in the course of an EPA permit granting process. For example, as the need for expanded strip mining and hazardous waste disposal sites becomes more acute, certain sensitive lands may be threatened with degradation. Thus, the ability to participate in reviews of either an EPA permit or an environmental impact statement is a potentially powerful tool to assure coordination of agency interests.

Advantages and Disadvantages

The advantage of these regulatory techniques for the federal land manager is that they can protect resource values without the cost of acquiring and managing land. Relying on state or local regulations also can reduce the appearance of federal intrusion into private property, keep land in productive use, and avoid the need continually to expand federal unit boundaries to resolve threats from adjacent land. In addition, communications during review processes may mitigate potential conflicts at an early stage.

Effective participation in environmental regulatory programs requires a strong data base to document impacts on the management unit and substantial commitments of staff time. Many environmental regulations and standards also have exceptions, variances, or loopholes which would allow activities that might harm outstanding natural values. For example, regulations to protect public health or navigation may not be sufficiently stringent to preserve pristine water quality.

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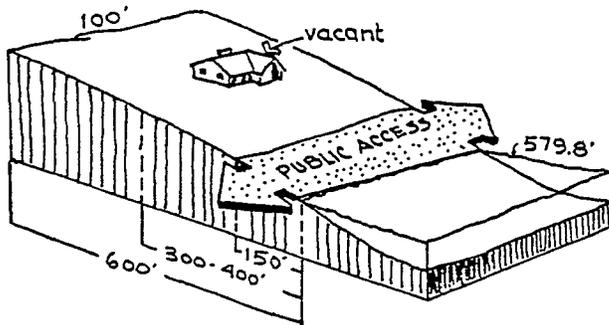
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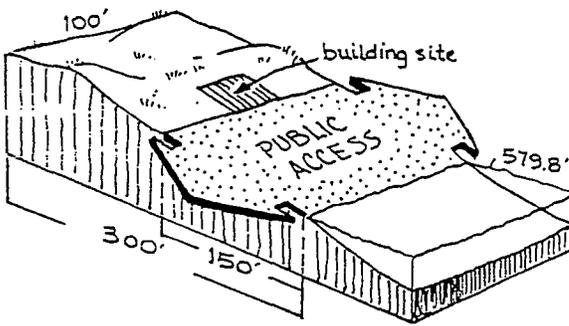
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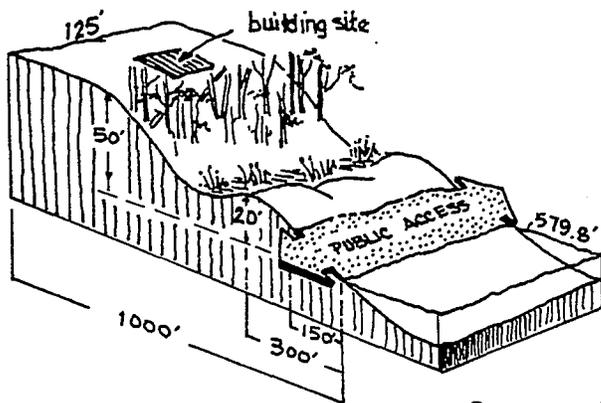
Figure 3 Estimated Costs of Access Easements



Assume land gently sloping to waterfront, a single family structure on upland portion of 100' x 600' lot; a 150' access easement along shoreline does not interfere with buildable portion of the lot. Estimated cost of easement: 20% of fee land value.



Assume a smaller (100' x 300') lot with no structure; a 150' wide easement would significantly impair privacy and make feasibility of building a house questionable. Estimated cost of easement: 40-90% of fee value.



Assume a deeper building lot (125' x 1000') separated from waterfront by a steep wooded slope; 150' access easement does not interfere with use of building site and is buffered by natural features. Estimated cost: 5-20% of fee land value.

Source: Applied Environmental Research, The Use of Less-Than-Fee-Simple Acquisition as a Land Management Tool for Coastal Programs. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of Coastal Zone Management, Washington, D.C. 1977. (Cost estimates approximate)

ACQUISITION ALTERNATIVES

Easements

Property ownership includes a variety of rights which may be envisioned as a "bundle of rights." This bundle usually includes the rights to farm, cut timber, build structures, extract minerals, exclude others from the property and otherwise develop the land, subject to local regulations. Ownership of all property rights is described as a "fee simple estate." However, these rights can be separated and leased, sold or donated to other parties. Each of these rights constitutes a less-than-fee interest in the property.

Easements are the most common type of less-than-fee interest for conservation purposes. An easement is a legally enforceable interest in land created by a transfer (that is, a grant, reservation, or conveyance). Easements can be affirmative or negative, appurtenant or in gross, implied or prescriptive. An affirmative easement establishes positive rights to enter and use land, such as the right of access for hiking, hunting, or fishing. (Figure 3 shows examples of an access easement.) Negative easements limit the uses of the land, for example, by prohibiting residential development, restricting timber cutting and filling of wetlands, or limiting changes in the facade of a historic structure. There is no limit to the number of provisions that may be included in an easement and positive as well as negative conditions may be combined.

An appurtenant easement is connected with the ownership of adjacent or nearby land. An easement in gross is one where the holder of the easement does not own land adjacent to the property subject to the easement. Because appurtenant easements relate to benefits for other property interests, they are generally more easily enforced in court. Another important distinction is that appurtenant easements are more easily transferred. Depending on state law, easements in gross may be extinguished (terminated) when land is sold, while an appurtenant easement would be transferred to the new owner.

Implied and prescriptive easements may be determined to have been established by a history of use or necessity for access. If a property owner sold part of his land to someone whose only access or only reasonable access to it was across the remaining land of the seller, an easement of necessity would be implied to exist across the seller's land. Equity will "imply" the existence of an easement in situations in which it would be inequitable not to do so. In this situation, however, if the purchaser had other reasonable means of access to existing roads, the way of necessity would not be implied.

Easements can also be acquired by use by the public over a long period of time without the owner's consent and with his knowledge. The period of time may be

statutory, or the use may have existed for so long that the court will declare that rights in the nature of an easement have been acquired by prescriptive use.

Application

Easements can be used most effectively when some but not all rights of ownership are needed to achieve federal land management objectives. For example, protection of a scenic vista may require assurances that there is no clear cutting of timber or construction of high-rise structures. Grazing, farming, single-family houses on large lots, or selective timber harvesting may be compatible with the scenic values to be protected. An easement can be drafted specifying exactly what uses will be allowed to continue and what uses will be restricted. These restrictions can be extremely precise, as in historic preservation easements which may specify the color of exterior facades. Easements can also specify the type, size, number, and location of structures allowed on a particular parcel, or they can specify that the design and site plan is subject to approval by the managing agency.

Easements are most useful when a private owner desires to continue uses that are compatible with public management objectives for land. For example, owners wishing to continue farming operations may find an easement allowing for public access to a shoreline or restricting intense residential development preferable to selling all of their interest in the land.

Although many landowners may be unfamiliar with the idea of an easement for conservation purposes, their property may already be subject to easements for utility rights-of-way or roads.

Federal Examples

Scenic or conservation easements have been a relatively small portion of the acquisition programs of federal agencies. However, easements have been used since the 1930s, when the National Park Service (NPS) acquired scenic easements along the Blue Ridge Parkway in Virginia and North Carolina and along the Natchez Trace Parkway in Mississippi, Alabama, and Tennessee. These easements prohibited buildings, signs and billboards, dumping, and tree-cutting.

The NPS experience with easements in both of these instances was not entirely successful for a number of reasons. Principal among these was that many of the landowners were insufficiently informed of the meaning of the restrictions at the time of initial acquisition. Subsequent transfers to new landowners compounded the enforcement problems. The result in both areas is that NPS would prefer to exchange the easements for fee simple acquisition of smaller parcels. The lessons learned from these early experiments can help avoid problems in other areas where easements can be used more effectively.

The Park Service has also acquired some scenic easements in Piscataway Park in Maryland. In the Lowell National Historical Park, the NPS and a local historic preservation society are acquiring easements that will prevent changes to the facades of buildings within the city's historic district (see Example 1). Scenic easements have also been used by the Forest Service on over 10,000 acres in the Sawtooth National Recreation Area in Idaho (see Example 2) and on over 5,000

acres in the Wild and Scenic River programs in several states. The Forest Service has also acquired right-of-way easements to provide public access along Vermont portions of the Appalachian Trail. The most extensive use of easements has been by the Fish and Wildlife Service (FWS). The service has acquired easements to protect wildlife by prohibiting the drainage of prairie potholes and other wetlands habitat. The program is active in Montana, Minnesota, North Dakota, and South Dakota, and involves over 19,000 landowners and 1.1 million acres of wetlands. These negative easements prevent owners from substantially changing wetlands habitat. FWS monitors easements by plane and by ground checks. Infractions are handled by staff trained in law enforcement, since violation is a criminal act which may be penalized by a fine and restoration of the damaged areas.

Conservation easements (or purchase and sale or lease with restrictions) result in a restriction on the deed which is binding on future owners for the length of time specified in the easement. Changes in the restrictions can be made only with the agreement of all parties to the original contract: the landowner, the governmental agency holding the easement, and in many cases, a local governmental body, a nonprofit land conservation trust or historical society. Because of the difficulty of making unwarranted changes in the future, the acquisition of easements is considered to be more permanent than other protection tools which do not involve interests in land.

The cost of acquiring less-than-fee interests may be defined as the difference between the market value of an unrestricted tract of land and its value with the particular restrictions in force (that is, its restricted use value). The cost of easements in locations of high development potential could constitute a large percentage of the full market value. In contrast, in areas of lower development potential and market value, the cost of buying easements would be proportionately lower. In each instance, the cost of an easement will depend upon the extent of the restrictions or rights involved. There is no rule of thumb to use to determine whether easements are "too expensive" in relation to fee acquisition. For example, an easement limiting virtually all economic uses of a parcel may cost 90 percent of the fee, but by leaving the land in private ownership a federal agency may achieve its protection objectives without having to pay for management and maintenance. On the other hand, an easement costing only 20% of fee may be "too expensive" if it fails to provide necessary protection for important resources.

Advantages and Disadvantages

The advisability of acquiring less-than-fee interests must be considered in relation to the many other alternatives. Generally, it will be more cost effective to acquire in fee if the intended public use would preclude a reasonable private economic use of the land. In other cases, full public ownership is not necessary and should be avoided in favor of acquisition of easements or other techniques.

Less-than-fee acquisition avoids displacement of current residents and allows the land to be retained in private ownership. Therefore, the public is not burdened with operating and maintenance costs. In addition, the local government will continue to receive some tax revenues from the private owner. These may be reduced in some states, however, since assessments will be on the basis of the value of the land under restriction.

Acquisition of easements can help protect more land than could be purchased in fee with limited funds. Retention of the land in private ownership may allow the continuation of traditional uses, such as cropping or grazing. This may be likely because pressure on the owner to develop the land more intensively will be relieved by payment for the easement and by lower local tax assessment.

Enforcement of any restrictions on land use, however, sometimes requires considerable vigilance. This may be a problem if there is no personnel for monitoring tracts under easement. Inclusion of a local conservation or historical organization or a local governmental body as a party to the easement may provide help in enforcement. Successful easement programs often include regular contacts with landowners to maintain a cooperative relationship.

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Purchase and Sellback

Federal agencies have traditionally acquired partial interest in land through the acquisition of easements, that is, by directly acquiring specific property rights. Other approaches, however, are available for obtaining specified rights from the owner of a property. The public agency could purchase the land in fee, attach the desired restrictions to the deed (that is, reserve certain exclusive rights), and then resell or lease the restricted land. This approach, known as purchase-sellback, is appropriate if the original owner either does not wish to continue to own the land

with restrictions or, for some other reason, wishes to sell the land. In other situations, it may be more worthwhile for an agency to purchase the land, attach the restrictions to the deed, and then lease it to the original owner or some other party.

Advantages and Disadvantages

General and specific authorizing legislation may impose restrictions on the ability of federal agencies to purchase and resell the property in certain areas. Nevertheless, this approach has advantages in meeting landowner needs for cash while at the same time retaining in federal ownership only those rights needed to meet management objectives. Purchase and sellback also assures that the government leaves the property owner only with those rights specified in the deed. If disputes arise, courts may find more strength in a purchase and sellback arrangement than an easement in protecting interests of the government.

Life or Term Estates

When private owners sell land, they can reserve certain interests. Reservation of the right to occupy or use the property for a term (usually 25 years) or until death is frequently allowed or encouraged in federal acquisitions. This type of acquisition leaves the property owner with a partial interest in the land and conveys other rights of ownership to the government.

The provisions of a reservation can be established to fit the special circumstances of a particular parcel. For example, owners of a 100-acre farm could sell property to the government, while reserving the right to occupy their house and to use 5 acres of the adjoining land until their death. The use of the adjoining property also could be restricted to gardening and other low intensity activities. This approach has been used in many national areas where management objectives focus on long-term protection rather than immediate public use.

Advantages and Disadvantages

By acquiring property subject to a right of use and occupancy for life or a term, federal agencies can assure the long-term protection of a resource without displacing current owners. The cost of acquisition also will be reduced by the value of the reserved interest. Costs for relocation assistance also may be reduced.

Reservations do not allow the public full and immediate access to the property acquired. Holders of the reserved interest also may encounter conflicts with recreational activities or other management functions that might restrict access to the property. However, experience with reserved interests to date has found this technique to be successful in meeting both landowner and agency objectives.

Donations and Bargain Sales

Donations and bargain sales are methods of acquiring land or interests in land at less than full market value. Landowners can make gifts of the full or partial value

of their land to government agencies or eligible nonprofit organizations. The gift may involve the owner's entire interest in the property, or it may be a specific right in the form of an easement.

Receiving donations of the full value of land is the most direct form of governmental land acquisition at less than market value. It is also the least expensive way for the government to obtain land. From the landowner's viewpoint, a full fee donation provides maximum income tax deductions. Federal income tax laws encourage private citizens and corporations to make charitable contributions by allowing deductions from ordinary income, usually equal to the value of the donation. The taxpayer's tax obligation is thereby reduced in proportion both to the donation and to the taxpayer's income tax bracket.

Tax incentives for donations of land or historic structures are based on the shelter effect of such donations. For example, if the sale of property pushes a taxpayer into a higher income tax bracket, the total income will then be taxed at a higher rate, requiring the taxpayer to pay more taxes. If the property is fully or partially donated (a bargain sale), however, a charitable deduction for the value donated will reduce the taxpayer's taxable income and possibly place him or her into a lower tax bracket.

Landowners are concerned with their financial situation after sale, expenses, and taxes. In most cases, the final calculation is far more critical to the landowner than the selling price alone. If a landowner can receive as much money after tax by donating all or part of the land instead of selling it, then the donation may be attractive.

When acquiring land, federal agencies must follow the procedures of the Uniform Relocation Assistance and Real Property Acquisition Policies Act (42 USC 4651), which requires them to offer to purchase land at not less than its appraised fair market value. Although this requirement might appear to preclude agency officials from pursuing land donations, it does not prevent them from suggesting donations. During negotiations, federal officials must offer a landowner the property's fair market value. At the same time, however, officials may note the potential benefits that landowners might receive by donating their lands to the government or an eligible nonprofit organization.

Federal officials should approach the idea of donation with special caution not to offer tax advice. Interested landowners should be encouraged to contact their accountants or tax attorneys to determine the benefits of land donation for a specific property.

Individuals, corporations, and foundations are often willing to donate land and money for conservation, preservation, and recreation programs. In part, the key to obtaining donations is showing landowners ways in which they can directly benefit. A well-conceived donation plan, developed with the help of accountants or tax attorneys, may generate donations that satisfy the needs of both the donor and the recipient. Examples of the tax consequences of donations of land follow the discussion of bargain sales, below.

There will be many instances where, for a number of reasons, the landowner will not consider making a full donation of his or her property. For example, the owner may have an immediate need for cash or may be unable to absorb a full

donation. In these situations it may still be possible to negotiate a bargain sale and thus allow the landowner to combine the advantages of both a gift and a sale.

A bargain sale is a sale of property to a qualifying organization or governmental body at a price that is less than its fair market value. The result is thus part sale and part charitable contribution. The amount deductible as a charitable contribution for income tax purposes is the difference between the fair market value of the property and the actual sale price. Tax advantages can also accrue from full or partial donations of partial interests as well as from donations of full fee title in land. A landowner who donates a conservation or other partial interest to a government agency or a private, nonprofit conservation organization, for example, may be able to deduct the value of that donation from his or her income taxes. (The value of the donation is established by before- and after-donation appraisals.) Furthermore, in some states, restrictions placed on the use of land can lower the assessed value of the property, thus lowering property taxes.

A bargain sale to a qualified organization provides the landowner with cash as well as a capital gain tax reduction, total avoidance of brokerage fees, and a charitable contribution deduction. The donated value in a bargain sale may also serve as a shield where sale at full value would push the landowner into a higher tax bracket, adversely affecting not only the profits from the sale, but also the net after tax return on his or her ordinary income. In some cases, landowners can obtain as much money after taxes by donating 50 percent of the land's value (and being paid for the other 50 percent) as if they were paid in full for their property. The tax consequences of both full and partial donations are illustrated in the examples given below.

Application

The owner of a parcel of land valued at \$10,000 wishes to dispose of ten acres of rare virgin prairie. The land, purchased years ago for \$50 an acre, is now valued at \$1,000 an acre. Several choices confront the owner: to sell the land, to donate it to a conservation organization or federal agency, or to sell at less than full market value. The financial consequences of each of these choices are detailed below (Table 2).

The key figure for each alternative is the net cash return after taxes. The net return from the sale of the full parcel, \$34,239, is only \$3,315 more than the owner's income after a full donation, and only \$1,068 more than the net cash return after the bargain sale. Given this information before the landowner decides how to dispose of the property, he or she might decide to make the full or partial donation, thus saving the recipient organization a considerable amount over the full purchase price. Private, nonprofit conservation organizations, principally The Nature Conservancy and the Trust for Public Land, have had notable success in acquiring properties through donations and bargain sales. The same approach could also produce significant savings for federal agencies.

Advantages and Disadvantages

Outright donations allow agencies to acquire land or interests in land without using appropriated funds. Bargain sales similarly allow agencies to stretch

Table 2 Analysis of Landowner's After-tax Position under Bargain Sale, Full Donation and Full Market Value Sale of \$10,000 Parcel

	<u>Bargain Sale</u>	<u>Donation</u>	<u>Full Sale</u>
a. Income			
Salary and Interest I	\$37,000	\$37,000	\$37,000
Plus: Capital Gains*	4,750	--	8,500
Gross Income	<u>\$41,750</u>	<u>\$37,000</u>	<u>\$45,500</u>
Less: Capital Gain Deduction (60 percent)	-2,850	--	-5,100
Adjusted Gross Income	<u>\$38,900</u>	<u>\$37,000</u>	<u>\$40,400</u>
Less: Itemized Deductions	-7,700	12,700	2,700
Taxable Income	<u>\$31,200</u>	<u>\$24,300</u>	<u>\$37,700</u>
b. Income Taxes			
Federal (per tables)	\$ 7,652	\$ 5,117	\$10,396
State (taxable income less federal tax X 5%)	1,177	959	1,365
Total Taxes	<u>8,829</u>	<u>6,076</u>	<u>11,761</u>
c. Cash Return			
Gross Income	\$41,750	\$37,000	\$45,500
Plus: Basis	250	--	500
Less: Taxes	-8,829	-6,076	-11,761
Net After-tax Income	<u>\$33,171</u>	<u>\$30,924</u>	<u>\$34,239</u>
d. Net Cost of Donation	\$1,068	\$3,315	--

Note: Federal income tax calculations are based on the rates established for 1982 in the Economic Recovery Tax Act of 1981. State income taxes vary widely. For purposes of this example, a 5 percent rate is used, applied to taxable income.

*The amount of capital gains realized on the sale of the full parcel (\$8,500 in the case of a full value sale) is determined by deducting the owner's basis in the property (\$500) and the broker's fee (10 percent or \$1,000) from the sales price (\$10,000). There is no broker's fee involved in the donation or bargain sale and such fees do not usually apply in sales to the federal government. In the case of the bargain sale, the capital gain (\$4,750) is the sales price (\$5,000), less one-half of the basis (\$250).

acquisition funds further. However, both approaches require cooperative land owners who can benefit from tax advantages. Negotiations may be more complex than an outright purchase. Tax revenues foregone as a result of the donation also should be considered in determining net costs to the government.

For landowners, donations can result in allowable state and federal income tax deductions, the satisfaction of knowing that the land will be protected or managed in accordance with the agreement reached with the agency, and in some cases, public recognition of their generosity to the community. Public recognition may be important in encouraging corporate donations, which will bring favorable publicity. For many landowners, however, donation of the full fee title of their land is not economically possible. Bargain sales have the advantage of providing the landowner with cash and the nonmonetary satisfactions provided by private donations to the public welfare.

Exchange

Federal agencies may acquire land or interests in land by trading land or interests already under their jurisdiction. Land trades between federal agencies are usually considered to be transfers. Trades of private land for federally owned land are usually defined as exchanges.

Exchanges may be for equal values, or values can be equalized by payment of cash. The Federal Land Policy and Management Act of 1976 (FLPMA) authorizes exchanges involving public lands and provides that cash equalization payments cannot exceed 25 percent of the total value of the lands transferred out of federal ownership. FLPMA also requires that the exchange be in the "public interest" considering federal land management as well as needs of state and local people, recreation, wildlife, minerals, and other values. Other requirements under FLPMA include consistency with agency mission and land use plans as well as findings of equal nonmonetary values including physical and esthetic qualities.

Application

Land exchanges can be useful for acquiring private property inholdings in federal land areas. This is especially true for federal lands in the western part of the United States, which are characterized by scattered (or "checkerboard") federal, state, and private parcels. For example, if incompatible development occurring on private property threatens the natural and scenic values of a surrounding national park, federal managers could offer to exchange another parcel located elsewhere for the private inholding. In this way, National Park Service (NPS) management objectives can be achieved without having to purchase private property with appropriated funds.

Generally, three conditions must be met before land becomes eligible as a trade offering:

- The land must be located in the same state as the parcel that will be acquired by the federal agency;

- The land must be owned by the United States and, for the NPS, U.S. Fish and Wildlife Service (FWS), and Bureau of Land Management (BLM), under the jurisdiction of the U.S. Department of the Interior. (Forest Service lands can be transferred between the Forest Service and the Bureau of Land Management.)
- The land must not be used for sustained timber production.

To accomplish a successful exchange, another set of conditions must prevail: landowners must be willing to exchange their property for another federally owned parcel; available land in which the owner is interested must be clearly identified; there must be agreement on the values of the lands being traded; and in the case of BLM, an exchange must be found to be in the public interest. (Such a determination may require an environmental impact statement.)

In many cases, private landowners initiate an exchange negotiation. If the NPS is interested in acquiring the land offered for trade, they may then exchange land currently held by BLM or other agencies within the Department of the Interior. In some cases, the General Services Administration serves as a transfer agency if the NPS and BLM are parties to an exchange negotiation.

Federal Experience: Creative Possibilities

Federal land managing agencies use land exchanges to consolidate their holdings and therefore reduce the possibility of land use conflicts. For example, through the FWS, the Blackwater National Wildlife Refuge in Maryland exchanged two acres of land with an adjacent state wildlife area to control hunter access to the refuge. The NPS has exchanged lands with BLM to protect park lands threatened by private development. From 1975 to 1980, NPS completed forty-nine exchanges that involved twenty-eight parks. Exchanges offer federal land managers a useful technique for resolving land use conflicts involving other federal agencies, as well as state agencies and private landowners. Interests in land, as well as land itself, can be exchanged.

Exchanges can involve three or more parties. One creative exchange conducted by the FWS employed a third-party transaction and involved the exchange of land for interests in land. The FWS wished to exchange parcels with a private owner in order to combine tracts for more efficient management. The owner wished to sell, but the FWS lacked funds to purchase the property. Ordinarily negotiations would thus have reached an impasse, with the FWS unable to purchase and the private owner unwilling to exchange.

To resolve this impasse, the FWS (with the help of The Nature Conservancy) located a timber company willing to enter the negotiations. The company purchased the land from the private owner, and conveyed the land to the FWS in exchange for the right to harvest a stated amount of timber on a portion of the federal land.

Advantages and Disadvantages

Exchanges provide an opportunity to consolidate federal holdings or acquire

needed interests in land without using scarce appropriated funds. An exchange can improve efficient management of fragmented holdings and achieve protection objectives without increasing the amount of land owned by the federal government. Exchanges of land for interests in land also can provide a creative approach to meeting landowner desires as well as federal agency objectives.

Although simple in concept, most exchanges have been complex and time consuming in practice. Due to requirements for appraisals, travel, negotiations, resource inventories, impact assessments, and other planning, exchanges can involve substantial administrative costs. Disagreements over appraisals or other resource values frequently prolong the exchange process. State and local concerns about changes in ownership patterns and mineral or timber receipt sharing also may impose political obstacles to some exchange proposals. Groups or individuals who use public land planned for an exchange also may object and delay the process.

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Leases and Special Use Permits

Leases are arrangements, typically between a landowner and a tenant, that allow the tenant to use the landowner's property for a specified period. Leases are common property agreements for residential, industrial, and commercial buildings. Agricultural leases, which allow a tenant to rent farming rights to land, are also used frequently. A lease can involve only partial rights to use property, for example covering only access, water, or timber.

Federal agencies can lease private holdings in parks, forests, and wildlife refuges as an alternative to purchasing the land. In some cases, the lease agreement may call for minimum payment, perhaps \$1 per year, in exchange for sound and compatible land management. This type of arrangement is especially appealing to corporations with small inholdings surrounded by federal lands.

Leases can be an effective way to gain control over property for limited periods of time. Federal agencies frequently lease lands from owners who want to maintain full property rights but not necessarily occupy or use them. Leasing and special-use permit activities of federal land managing agencies vary significantly depending on local customs and land needs.

Special use permits are similar in concept to leases in that they transfer limited rights of use from one party to another for a specified period of time. For federal agencies, special permits are used more often than leases to allow private uses of

land in federal ownership. Special use permits are issued under administrative guidelines of each agency, and are more likely than leases to specify what activities can and cannot take place. Permits also may contain provisions for revocation on relatively short notice or for violation of terms. The Forest Service and Bureau of Land Management issue a variety of such permits for livestock grazing, skiing, and utility rights-of-way.

Federal Examples

The Water Bank Program is administered by the U.S. Department of Agriculture, Agricultural Stabilization and Conservation Service, with technical field assistance by the Soil Conservation Service. (See Example 10.) This program involves leases on private land for resource protection, primarily to provide wetland nesting habitats, and adjacent lands for migratory waterfowl. Fifteen states have active Water Bank Programs, but most of the agreements (73 percent) are found in Minnesota, North Dakota, and South Dakota. In essence, the Water Bank Program leases the landowners' right to develop their wetlands for agricultural, residential, or other purposes. Property owners are paid up to \$55 per acre to leave their wetlands undisturbed. Standard contracts run for ten years.

Advantages and Disadvantages

Leasing can allow federal managers to have access to or control land at a significantly lower cost than outright acquisition. Agencies can lease land or interests in lands. Lease arrangements could be useful for private inholdings where owners do not need full use of the land and are willing to permit other uses. Leases are especially suitable for making land available for periodic special events or for recreational activities that are not expected to maintain their popularity. Leasing also leaves land in private ownership and on local tax rolls. Special use permits provide an opportunity for federal agencies to allow continuation of private uses or commercial activities subject to appropriate restrictions. The case-by-case discretion accompanying decisions about leases and special permits allows federal agencies to make land management arrangements with private landowners on relatively short notice.

The major drawback to leasing is that the terms of the leases are usually less than twenty years. When the lease agreements expire, property owners are free to alter the character of the lands and structures. Leases also do not usually provide an adequate interest in property where an agency needs to build improvements such as roads or interpretive facilities.

Land Trusts and Private Not-for-Profit Organizations

Land trusts are nonprofit corporations established to own land and interests in land for specific purposes, ranging from maintaining open spaces in rural areas to providing parks in cities. The objectives of individual trusts are generally stated in their charters.

In addition to land trusts, other not-for-profit organizations frequently acquire lands that contain significant natural and cultural resources. Several conservation organizations purchase and operate locally and nationally significant wildlife sanctuaries.

Not-for-profit foundations and trusts are registered tax-exempt organizations. This status enables the organizations to receive tax deductible donations of land, interests in land, money, or securities. Acquired lands are managed by the organization or are sold or leased with restrictions to assure that future land uses meet the intended objectives.

The Nature Conservancy and the Trust for Public Land are two nationally recognized leaders of private involvement in resource protection real estate transactions. Hundreds of state and local land conservation organizations are chartered by states and receive the same tax-exempt status as national organizations. They have been formed to maintain existing open spaces in urban and suburban areas, to prevent development in sensitive areas, and to provide recreational access to open spaces.

Nonprofits and the Federal Manager

Federal land managing agencies can work with not-for-profit organizations in a variety of situations. First, nonprofits' acquisition and management programs frequently parallel or support federal land managing agency activities. For example, the Trust for Public Land has developed projects to maintain agricultural and ranching land uses near Point Reyes National Seashore in California. Preserving these rural uses in the seashore's vicinity is a major objective of NPS managers. Secondly, the not-for-profit organizations can assist federal agencies and private landowners in real estate transactions. Private organizations have considerably more flexibility than federal agencies in acquiring land. If a parcel that has significant natural or cultural resources comes on the market, a private not-for-profit organizations can act far more quickly than a federal agency. They can, for example, secure, frequently for a small or even nominal sum, an option to buy the parcel. This allows time to locate conservation-minded buyers willing to abide by restrictions placed on the property.

Among such organizations, local land trusts in particular provide a means for rural property owners to assure traditional land uses while maintaining private ownership. A group of farmers, for instance, can form a land trust and obtain a charter as a not-for-profit organization. They can then donate conservation easements on their property to the trust, and if the organization and the interest donated meet IRS standards, they can gain tax benefits. They also receive the satisfaction of knowing that their land will be protected by an organization with which they are familiar, and which shares their values. Such arrangements can reduce the amount of land that needs to be in public ownership to protect scenic values or natural systems.

As noted in the section on exchanges, private conservation organizations can be instrumental in devising and effecting imaginative exchanges. Such organizations can also provide technical assistance to federal, state and local officials, as well as to private individuals. Tax counselling to potential donors of land is a special strength of many conservation organizations. Other groups play an important part in land stewardship programs through an extensive volunteer network.

An estimated four hundred local land conservation organizations have been formed in recent years. If a nonprofit plans to acquire land for transfer to a Federal agency, it should be encouraged to check with the agency as early as possible to determine if the land or interests can be accepted. Federal managers should become familiar with groups working in their areas, and with the major national organizations listed in the directories given below.

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U.S. Department of the Interior, Heritage Conservation and Recreation Service. Land Conservation and Preservation Techniques. Washington, D.C.: GPO, 1979.

For more information, write

The Trust for Public Land, National Headquarters, 82 Second Street, San Francisco, CA 94105.

FINANCING AND TAX INCENTIVES

Differential Assessment of Real Property

Differential assessment laws enable state and local governments to value certain property according to its current use, rather than its highest fair market value. Eligible lands generally include farms, forests, critical watersheds, and areas of outstanding scenic beauty.

Differential assessment programs have two general objectives:

- to decrease the tax burden of farmers and other eligible landowners along the rural-urban fringe; and
- to encourage continued use of lands in eligible categories.

Forested and agricultural lands near cities are rapidly being subjected to increasing taxes as the value of developable land increases. Similar situations might also apply to areas adjoining or near federal parks, forests, and wildlife refuges. Through state differential assessment programs, assessed values and property taxes in these areas may be reduced by as much as 70 percent, thus reducing pressure on owners to sell their land for development.

Three standard forms of differential tax assessments are employed throughout the United States: pure preferential assessment, deferred taxation, and restrictive agreements. These programs have varying criteria regarding eligible lands, restrictions to landowners, periods of participation, and provisions for repayment of past tax obligations should land use change (Table 3).

Pure preferential assessment allows land to be assessed on the basis of its current use rather than its fair market value. Therefore, current use assessments on agricultural and forest lands with high development potential can be significantly lower than fair market value assessments.

Deferred taxation resembles pure preferential assessments with the added condition that if land is changed from the status quo to a noneligible use, a penalty is imposed on the landowner. Penalties are generally the difference between the taxes paid and the taxes that would have been paid with market value assessment for a specified number of past years, plus interest on that amount in some states. This tax "rollback" deters landowners from changing land to noneligible uses; it also allows government collecting agencies to receive taxes that were not paid.

Table 3 Differential Assessment Programs

<u>Pure Preferential Assessment</u>	<u>Deferred Taxation</u>	<u>Restrictive Agreement</u>	<u>More than One Program</u>	<u>None</u>
Arizona	Alabama	California	Pennsylvania	Georgia
Arkansas	Alaska	Hawaii		Mississippi
Colorado	Illinois	Michigan		
Connecticut	Kansas	New Hampshire		
Delaware	Kentucky	Wisconsin		
Florida	Maine			
Idaho	Maryland			
Indiana	Massachusetts			
Iowa	Minnesota			
Louisiana	Montana			
Missouri	Nebraska			
New Mexico	Nevada			
North Dakota	New Jersey			
Oklahoma	New York			
South Dakota	North Carolina			
West Virginia	Ohio			
Wyoming	Oregon			
	Rhode Island			
	South Carolina			
	Tennessee			
	Utah			
	Vermont			
	Virginia			
	Washington			

Reference: Hady, Thomas F. "Do State Property Tax Programs Preserve Farmland?" Rural Development Perspectives (USDA, RDP-4) September 1981.

Restrictive agreements require participating landowners to sign contracts with a public agency restricting development on lands for the duration of the contract (typically ten years). Based on the contract, the land is then valued by its current use. Rollback provisions, such as those with deferred taxation, are also frequently imposed.

Advantages and Disadvantages

Differential taxation programs have advantages and disadvantages similar to other tax and regulatory programs. By providing tax relief incentives, they can reduce financial pressures which lead to growth and incompatible development. However, they do not provide long-term assurance that property will retain its agricultural or forest characteristics.

Enrollment in differential taxation programs is generally voluntary. If rollback taxes or other development penalties are too great, few landowners are likely to participate. At the same time, if penalties are small or nonexistent, there is little encumbrance for property owners who develop their lands.

Experience indicates that differential assessment programs are most effective when they are coupled with zoning, agricultural or forest districts, or some other type of regulation.

Land Gain Taxes

Land gain taxes are a type of state capital gains tax applied to increases in land value between the time of initial purchase and subsequent sale or exchange of land. As applied in Vermont since 1973, tax rates are based on the period of ownership and the amount of profit realized when land is sold or exchanged.

For example, gains of 200 percent or more realized on the sale of lands owned less than one year are taxed at a 60 percent rate, while 200 percent gains on lands owned between five and six years are taxed at only 10 percent. The sale of lands owned for six years is not taxed under the Vermont program. Vermont started the land gains tax program to reduce financial incentives for land speculation. Vermont is currently the only state that maintains a land gains tax program.

Application

Even though federal land managing agencies do not have authority to tax financial gains from land development, such a tax can be used indirectly to promote federal agency objectives. For example, lands surrounding and intermingled in the Green Mountain National Forest in Vermont are taxed according to the land gains tax schedule when sold. If these taxes deter development on surrounding lands and perpetuate farm and forest uses, the National Forest does not need to acquire land to protect scenic vistas, watersheds, or provide other forest resource uses.

Advantages and Disadvantages

As demonstrated by Vermont's experience, a land gains tax program can slow development of open space and forest lands in the interests of conservation and resource protection. Also, monies derived from imposing this tax may be used to purchase sensitive lands, or interests in lands in other areas. However, there are loopholes in this program regarding nonresidents who do not file the applicable state income tax. Also, the land gains taxation system cannot prevent all incompatible uses from occurring on every parcel subjected to residential or industrial development pressure. Finally, political factors can make land gains tax programs extremely difficult to administer effectively regardless of their intent.

References

Vermont Office of State Tax Assessment, Montpelier, VT.

Transfer and Development Taxes

Transfer tax programs require landowners to pay the state or county government a special tax above general transfer taxes when rural, farm, or forest land is sold. Transfer and development tax programs discourage the sale and subsequent development of farm and forest lands. They also provide a source of revenue for preserving farm lands. Transfer taxes and development tax schedules vary by state but are typically based on length of ownership and farm or forest use. They are often used in conjunction with preferential assessment programs, zoning, and other regulatory land use controls.

Transfer taxes are assessed to the seller at the time of sale. In Maryland and some other states, the transfer taxes become part of the funds specifically designated for farmland preservation. Consequently, these funds are not considered general state revenues. Transfer taxes are assessed for all farmland sales and exchanges, regardless of the purchaser's intended land use.

Development taxes, or land use change taxes, are only assessed when plans are submitted to convert farm or forest land to industrial, commercial, or residential uses. Development tax rates vary in different states according to length of property ownership and the intensity of planned development. Several New England states have development tax programs that are another part of their differential tax assessment programs for farm and forest lands.

Application

Transfer and development taxes are typically levied by state and local governments. The federal role in such tax programs is generally advisory. Nevertheless, state and local tax programs can conform to federal land use objectives and provide additional impetus to maintain lands in their natural condition. Land managing officials can work with state and local governments to develop tax and other programs that can further the objectives of all levels of government.

Transfer and development tax programs are useful to federal agencies seeking to preserve rural land uses, such as farming and forestry. Incentives for conservation are especially important in areas where federal agencies own only a small portion of the land, such as national recreation areas and national seashores.

Many national areas contain substantial amounts of private land. Transfer and development tax programs would discourage further the selling and development of the land. The taxes could be put into separate funding accounts specifically for purchasing other parcels scheduled for development. Thus, transfer and development tax programs provide a penalty for private land development and a funding source for state and local governments to purchase and preserve farm and forest lands.

Advantages and Disadvantages

Transfer and development tax programs are state or locally initiated efforts to provide incentives for landowners to retain open space or low intensity uses. The tax "disincentives" for development also can produce revenues which can be used to acquire needed land or interests in land for park purposes.

Tax incentives related to transfers or development are seriously limited in their ability to provide permanent protection for important resources. These programs do not provide a long term alternative to acquisition of land, but they can help provide interim protection by reducing the economic incentives for more intense development and use of land. Transfer and development taxes should be considered as one part of a general strategy involving regulatory and administrative tools as well as other tax incentives.

References

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Loans and Grants

Federal loans and grants are available to state and local governments for community development, hazard or impact mitigation, recreation development, and water quality management.

Direct loans, or loan guarantees, are a form of credit assistance. Most federally sponsored loans offer flexible terms, below market interest rates, and favorable contingency mechanisms governing modification or renegotiation and repayment.

Grants can be either categorical or block. Categorical grants have been widely used. They are applied to rather narrowly defined uses or program categories. Block grants, on the other hand, are broader and apply to many permissible uses.

Application

Three of the better known federal grant programs are the section 701 comprehensive land use planning assistance and community development block grants of the Department of Housing and Urban Development and the section 208 water quality planning grants administered by the Environmental Protection Agency (EPA).

The 701 planning assistance program facilitates regional planning at the state, county, and subregional levels. Through participation in the planning process, considerable influence can be exerted on private land use and development trends.

Community development block grant monies can be used effectively in urban areas where preservation of valuable properties is desired. These loans and grants can be used to restore historic structures and to improve recreational facilities in target neighborhoods.

The 208 program funds areawide wastewater treatment facility planning. While these grants are not targeted specifically for recreation or land management, they can significantly affect rural land management by creating new opportunities for development. Therefore, federal agencies should consult EPA to assure that development encouraged by 208 grants is compatible with their objectives.

Planning and acquisition grants, as well as special loan arrangements, are available through two programs established by the Federal Coastal Zone Management Act of 1972. The Coastal Energy Impact Program and the Federal Estuarine Sanctuary Program are administered by the Office of Coastal Zone Management within the National Oceanic and Atmospheric Administration.

The Coastal Energy Impact Program awards funds to assist in the planning for and mitigation of onshore impacts associated with Outer Continental Shelf oil and gas activities. Waste collection and treatment, parks and recreation, and oil spill prevention and contingency plans can all be funded through this program.

These grants have helped finance the preparation of an outdoor recreation plan as well as acquire land to enhance recreational opportunities (linked to oil spill impact mitigation objectives). Low-interest loan arrangements are also available to communities whose expenditures have unexpectedly risen due to Outer Continental Shelf impact planning activities.

The Federal Estuarine Sanctuary Program provides funds for land acquisition and operating costs associated with subsequent management functions. In California's Elkhorn Slough, for example, valuable wetlands will be purchased for inclusion in a sanctuary adjacent to lands scheduled for acquisition by the U.S. Fish and Wildlife Service.

Matching federal grants have been included in the protection strategy for the Santa Monica Mountains National Recreation Area and the Pinelands National Reserve.

Grants and loans may also meet federal land management objectives in other situations. For example, a private landowner might want to establish a camping facility adjacent to a national park but lacks sufficient funds. If park managers

find this use to be compatible, they could help the landowner secure a U.S. Department of Agriculture rural development loan.

Federal Roles

Like technical assistance arrangements and cooperative agreements, loan and grant programs may further certain federal land management agency objectives. In some situations, sensitive or recreationally significant lands can be acquired at no expense to the land managing agencies. The Coastal Energy Impact Program, the Estuarine Sanctuaries Program, and the U.S. Department of Agriculture rural development/small watershed programs provide funds for land acquisition.

Advantages and Disadvantages

Land management agencies may reap programmatic benefits at little or no cost through relevant grant and loan arrangements. The integration of loan and grant opportunities into a federal land management program would clearly lessen the acquisition burdens of the Land and Water Conservation Fund. In addition, federal participation in helping private landowners attain federal grants will enhance long-term cooperation.

However, current fiscal restraints have included substantial reductions in many federal programs providing loans and grants. Although grant monies are likely to be in short supply, this approach should be considered as one possible federal role where direct acquisition and management of land is not necessary or appropriate.

References

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Revolving Funds

Revolving funds are special funds established for the purpose of purchasing threatened lands or structures (or for making loans for such purchases). Properties acquired are then resold with conservation restrictions, thereby replenishing the funds and allowing the money to be "revolved" to a new project. Some funds are also able to recover their operating costs in the resale.

Applications

Revolving funds have played an extensive role in historic preservation efforts, and a lesser role in land conservation. Founded over thirty years ago, the Historic Charleston Foundation Revolving Fund and the Historic Savannah Foundation set the pattern, followed by subsequent historic preservation revolving funds: funds are obtained from corporations, nonprofit organizations, private foundations, individuals, and state and federal grants. These funds are used to acquire endangered properties (or to acquire options on such structures) until a buyer is found. The revolving fund sells the property with preservation covenants attached, and the money is returned to the fund to support further purchases.

Using this technique, the Historic Savannah Foundation has effected the preservation of over 250 buildings in the last twenty years. The total impact of the revolving fund, however, is quadruple this direct impact. Well over 1,000 buildings have been preserved as an indirect result of the fund's activity in the city. Measured in dollars, the work of the fund is even more impressive. \$30 million in fund-sponsored projects have generated ten times that amount in private investment.

The basic revolving fund mechanism pioneered in Charleston and Savannah has been adapted to serve on a variety of levels. The National Trust for Historic Preservation administers a national program (which has leveraged additional funds at a ratio of \$16 to every \$1 of Trust investment). Statewide funds are operating in North Carolina, Massachusetts, Connecticut, and Indiana. (The Historic Preservation Fund of North Carolina recorded a similar "return" of 16 to 1 in its first five years of operation.) Regional revolving funds have been discussed, as have revolving funds for such specialized purposes as the preservation of train stations, schools, and other structures.

The pioneer revolving fund concerned with natural areas is the Land Preservation Fund administered by The Nature Conservancy. This fund had assets of \$1.07 million in 1970. Sustained fundraising efforts boosted this total to \$23.2 million by 1979. In roughly the same period the number of Conservancy projects rose from 437 projects protecting 139,723 acres to 2,332 projects involving 1,625,519 acres. Except in cases where urgent action alone can prevent the destruction of a valuable area, the Conservancy does not acquire land unless it has a prospective buyer already committed or unless it plans to manage the property. In either case the fund is repaid--either by the new owners or by fundraising efforts of the local branch of the Conservancy to which the management of the newly purchased land is assigned.

A precedent for the use of revolving funds in federal areas has been set in the act establishing the Lowell National Historical Park. (See Example 1.) This revolving fund, like others before it, should effect far more preservation per dollar than could be achieved through traditional acquisition programs.

Advantages and Disadvantages

Revolving funds have proven to be effective means of stretching limited financial resources. The roll over of funds after a property is sold (or after the revolving fund loan is repaid) greatly increases the amount of preservation or conservation

that can be supported. (Closely related to this benefit of revolving funds is the multiplier effect such funds--particularly local revolving funds--have had by stimulating private investment in properties located near fund-assisted projects.

Revolving funds have the additional advantage of being able to act quickly in an emergency. (The revolving fund, for example, can often purchase an option on an endangered property, occasionally at nominal cost, and thus delay demolition or development until other means of saving the resource are found.) Furthermore, revolving funds often establish ties with local business and financial institutions, thus involving segments of the community that have not always been sympathetic to resource protection.

Revolving funds, however, can be difficult to establish and complex to administer. (Technical assistance and some financial assistance, however, are available from the National Trust for Historic Preservation and other organizations, and the literature on revolving funds is extensive.) A more serious drawback is that revolving funds tend to "devolve" after a number of transactions. That is, as property after property is "revolved," the likelihood increases that the fund will not recover the administrative expenses involved in a given transaction. Occasionally, too, funds will suffer capital losses on resales. Revolving funds are thus likely to be useful only in cases where there is an initial source of revenue and a strong market for resale of property subject to restrictions.

References

Architectural Conservation Trust (ACT) for Massachusetts and Architectural Heritage Foundation. The Revolving Fund Handbook: A Practical Guide to Establishing a Revolving Fund. Boston, MA. 1979.

The Nature Conservancy. Annual Report, 1979. The Nature Conservancy News. (May/June 1980).

U.S. Department of the Interior, Heritage Conservation and Recreation Service. Land Conservation and Preservation Techniques. Washington, D.C.: 1979.

For more information, write

National Trust for Historic Preservation, Office of Preservation Services, Grant and Loan Programs, 1785 Massachusetts Ave., NW, Washington, D.C. 20036

Estate Planning

Many land transactions occur when owners face retirement or death. The conditions under which land is sold or bequeathed can have major effects on estate taxes. Estate planning can further the interests of the landowner, federal agencies, and the general public. Two general types of tax advantages should be considered: 1) Death tax benefits which encourage a landowner to maintain the land in open space uses; and 2) Tax savings resulting from donation of full-fee ownership or less-than-fee interests in land to a governmental body or qualified nonprofit corporation.

Death Tax Benefits

Two sections of the Internal Revenue Code, enacted by Congress in 1976, refer to the estate tax on farmland.

Section 2032A

This section allows current use valuation of qualified farm real estate for death tax purposes if the estate meets the following criteria:

- The decedent must have been a citizen or resident of the United States at the time of death.
- The real property must be located in the United States and must have been in use as a farm at the time of death.
- The decedent or a member of his or her family must have owned the property and used it for farming and must have materially participated in the operation of the farm for five out of the eight years preceding decedent's death.
- The real property must pass to a "qualified heir" (a decedent's ancestor, lineal descendant, lineal descendants of his or her grandparents, his or her spouse, the spouse of such descendants, and legally adopted children of the individuals in the above classes).
- Fifty percent or more of the adjusted value of the gross estate (the value of the gross estate determined without regard to section 2032A reduced by deductions for funeral and administration expenses, claims against the estate and unpaid indebtedness) must consist of the adjusted value of real or personal property which was used for farming at the time of death.
- Twenty-five percent or more of the adjusted value of the gross estate must consist of the adjusted value of qualified farm real property.
- All persons with an interest in the property must sign a written agreement making the election for preferential valuation and authorizing the executor to file it.

To realize the full tax benefit, the qualified heir or family member must keep the property in farming for at least fifteen years. If the heir fails to participate in the operation of the farm for a total of three years, stops using the property as a qualified farm or sells it to a nonfamily member, he or she must pay back the taxes saved (according to section 2032A). If disqualification occurs after the tenth year, the amount to be paid back is reduced at the rate of 1.66 percent per month (or 20 percent per year) so that by the end of fifteen years all of the debt is paid back.

Section 6166

This section allows deferred payment of death taxes. Death taxes may be deferred if the value of the decedent's interest in farm personal and real property

(as reduced by section 2032A) constitutes at least 65 percent of the adjusted gross estate. The taxes may be deferred for five years and then may be paid in equal installments over the next ten years. Low interest rates (4 percent) are charged on the first million dollars of farm property and market rates on the remainder.

Tax Savings Resulting from Donation of Interests in Land

Donation of the full fee title to land or a less-than-fee interest in land to a public agency or qualified private nonprofit corporation may qualify as a charitable deduction. Donations of development rights or "conservation easements" may also be eligible for such tax treatment.

As an alternative, land may be sold to a public body or qualified corporation at less than its market value (a "bargain sale"); the difference between the market value and the sale value would be considered a donation. The charitable deduction is equal to the fair market value of the donation. Such a deduction will reduce federal income and future estate taxes since the land or interests in land will be removed from the estate. Tax deductions resulting from donations of land are discussed in the section on acquisition approaches.

Application

The provisions of the Internal Revenue Code are available to all qualified estates electing to use them. Provisions in state inheritance tax laws are also available to qualified landowners in a given state.

Estates are liable for federal estate tax only if their assets exceed \$175,625. An additional marital exemption of \$250,000 is available when the first spouse dies. Thus, estates of up to \$425,625 are passed tax-free to the surviving spouse. It has been estimated that 70 percent of all farm estates are free from federal death taxes because of these two exemptions.

Tax benefits will affect the decision to sell only those farms that have liquidity problems serious enough to justify being sold in the absence of death tax benefits, but not so serious that they would be sold despite them. Nationally, this percentage is estimated to be less than 10 percent of farm estates probated in any one year. In some localities where the average size of a farm is larger, the percentage may be significantly larger.

The Federal Role

Federal land management agencies with an interest in preserving agricultural land may find the provisions in the federal and state death tax laws of some assistance. The heirs to the estate, however, must make the decision as to whether to use the provisions concerning farm use valuation and deferral of death taxes. (This decision should be made with competent legal advice.)

Federal managers can inform landowners about possible tax advantages and encourage them to seek expert advice in estate planning. Cooperation with the local IRS office may also be necessary. In some regions, IRS officials have been

reluctant to grant charitable donation status to gifts of interests in land, despite the wording of the Internal Revenue Code.

Advantages and Disadvantages

The major advantage of using death tax benefits to preserve farmland is that the tax provisions are already enacted in federal and many state laws. The cost to a federal agency is minor since the role of the agency lies in educating the public to the availability of the tax provisions. The agency may, subsequently, improve its image by providing such useful and practical information.

The disadvantages of relying on death tax benefits to deter development are that the tax provisions apply only to farmland and are likely to be employed by only a few larger farmland owners. More precisely, current use valuation applies only to farmland while tax deferral applies to farms and other businesses. Some forestry businesses might also be eligible. In addition, the tax provisions only apply for fifteen years. They will not permanently deter development. The major advantages of donations are that they permanently protect land from development and cost an agency little or nothing. The major disadvantages of donations are that, they are likely to be limited to wealthy landowners, since tax advantages increase with taxable income. Further, since it is almost always more profitable to sell than to donate, landowners may not be likely to donate unless they have a strong conservation motive. It may also be difficult for agency officials to elicit gifts directly. Therefore, a program that involves private land trusts may be more successful.

References

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U.S. Department of the Interior, Heritage Conservation and Recreation Service. Land Conservation and Preservation Techniques. Washington, D.C.: U.S. Government Printing Office, 1979.

EXAMPLES

The following examples discuss some specific areas where alternative land protection tools have been applied in practice. Each example includes a list of the techniques used in the area, background information, details of the administrative framework, land management objectives, and the most notable techniques used or available to the area managers. Each example also includes suggestions for sources of further information.

Lowell National Historical Park
Sawtooth National Recreation Area
Redwood National Park
Cape Cod National Seashore
Pinelands National Reserve
Lake Tahoe Basin
Adirondack Park
Columbia River Gorge
Blackfoot River
Water Bank Program

LOWELL NATIONAL HISTORICAL PARK, LOWELL, MASSACHUSETTS

Techniques: Loans, Grants, Revolving Fund, Easements, Cooperative Agreements, Building Codes, Sign Ordinances, Zoning, Technical Assistance.

Background

Congress established the Lowell National Historical Park and the Lowell Historic Preservation Commission in 1978. Lowell, located 30 miles northwest of Boston, is an important city in urban industrial and social history, having been a major American textile production center throughout the nineteenth century. Economic decline and stagnation have plagued the region until recently, when cooperative city, state, and federal efforts began to capitalize on the area's rich historical heritage and public recreational potential. The formation of the current commission began in the early 1970s when a local congressman introduced legislation establishing the Lowell Historic Canal District Commission. This commission, after a two-year study, recommended the creation of the Lowell National Historical Park. The primary role of the park is the conservation and development of the historic resources. Based on these recommendations, the park and the Lowell Historic Preservation Commission were established by Congress in 1978.

Architecturally, Lowell is characterized by a variety of unique industrial, commercial, and residential structures worthy of restoration and preservation, as well as an intricate canal and lock system winding its way through the city's center. In terms of economic revitalization and public interest in Lowell's past achievements, the city is just now beginning to reap widespread rewards.

Administrative Framework/Management Objectives

The park and the commission are two distinct federal entities within the U.S. Department of the Interior. The National Park Service has direct jurisdiction over a small portion of Lowell's downtown center and the 5.6 mile canal system. The commission, which reports directly to the Secretary of the Interior, manages a "preservation district" surrounding the park.

The park program focuses on rehabilitating various mill and commercial buildings and surrounding streets as well as providing interpretive exhibits and transportation for visitors. The commission's mandate is explicitly tailored to encourage economic development related to the park and help the city of Lowell set preservation standards. The commission includes fifteen members

representing federal, state, and local groups and is authorized to continue through 1988. In addition to developing programs that address commercial and residential historic properties within the preservation district, the commission sponsors numerous cultural and educational programs linked to the region's heritage.

Complementing the commission and NPS programs are other activities administered at the state and local levels. The Lowell Heritage State Park, established in 1974, provides funding for planning for the city's canals and waterfront on the Merrimack River for recreational use and interpretation. The State Department of Environmental Management implements this program. Lowell's city council has also initiated programs linked to the region's historic and cultural preservation objectives. A park theme is now an integral element of the local development planning process. In addition, special grant programs, in part supported by federal community development block grants, have been established. Particular emphasis has been placed on assisting property owners in the rehabilitation of both residential and commercial properties located downtown and in other historic neighborhoods. Many of these properties fall within the preservation district. Among the more popular programs successfully implemented thus far are grants to rehabilitate and maintain building facades.

Notable Protection Techniques

Despite differences in their programs and geographic jurisdictions, both the park and the commission pursue similar--and often identical--management objectives. Among their parallel efforts is that of restoring and preserving worthy commercial and residential properties throughout the city. The NPS concentrates its efforts in the downtown core, while the commission programs extend over a larger area. Neither entity, however, can afford to acquire fee simple interests in every significant historic property to assure adequate restoration and long-term preservation. Furthermore, private ownership and adaptive reuse are in many cases the most appropriate approaches to protecting the historic values.

Preservation Restrictions

Within the preservation district, preservation restrictions can be negotiated voluntarily with owners of historically significant structures. Preservation restrictions also can be conditional to a loan or a grant. The preservation restrictions contain guidelines advising what a property owner can and cannot do to the structure. This arrangement works as follows:

1. A private owner normally registers a preservation restriction with the commission at the county registry of deeds;
2. The restriction runs with the deed for periods ranging from five to ninety-nine years;
3. The commission assumes design review and approval authority;
4. The owner retains fee title, but surrenders the right to make major alterations to the structure or surrounding land without conforming to specified standards; and

5. The commission makes available 50 percent grants to reimburse the owner for costs incurred for any required exterior rehabilitation and reconstruction. Low-interest loans are also available.

The commission reports modest success with securing preservation restrictions on privately owned historic structures in the preservation district.

City of Lowell Facade Rehabilitation Grants

Among the municipal programs available for enhancing historic structures is Lowell's facade rehabilitation scheme. Up to \$4,000 per structure is available under this arrangement for restoring downtown commercial and residential facades. Substantial technical and design assistance often accompanies these grants. Over fifty properties have benefited from this program to date.

Regulatory Controls

Regulatory controls provide another important source of support for park and commission programs. Lowell has adopted a building and zoning code, which helps preserve historic structures. A sign ordinance also has been adopted to protect the ambiance of the historic area. A local historic commission has review and approval authority over development projects in adjacent districts including the city hall and the locks and canals. The commission has proposed a reorganized local board and consolidation and enlargement of the historic districts.

Revolving Fund

The authorizing legislation for the Lowell National Historical Park allows the commission to lend money to an existing revolving fund, the Lowell Development and Financial Corporation. This corporation may use the funds to provide low-interest loans for the preservation, restoration, or development of properties in the park and preservation district. The corporation's use of these funds is limited to thirty-five years. After that period, the corporation must repay to the U.S. Treasury the full amount of the loan, plus any interest the money has earned, less any reasonable administrative expenses the corporation has incurred administering the revolving fund program.

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Lowell Historic Preservation Commission. Grant and Loan Application Procedures. Lowell, MA: LHPC, 1981

Lowell National Historical Park. General Management Plan. Lowell, MA: National Park Service, 1981.

SAWTOOTH NATIONAL RECREATION AREA, KETCHAM, IDAHO

Techniques: Scenic Easements and Suspension of Condemnation Authority.

Background

The Sawtooth National Recreational Area (SNRA), authorized by Congress in 1972, contains a total area of 754,000 acres, of which roughly 3 percent (25,423 acres) is privately owned. The federally owned and administered portion of SNRA is a national forest. Agricultural uses prevailed on most of the private land holdings in the area until the late 1960s and early 1970s, when improved road access to ranches in the high altitude Sawtooth Valley led to increased land speculation and subdivision development. Since 1972, the SNRA administering agency, U.S. Forest Service (FS), has established a land use classification system for private holdings, acquired certain subdivisions, and instituted a scenic easement program on other privately owned parcels planned for development incompatible with FS management objectives.

Administrative Framework/Management Objectives

The FS land management goal within the SNRA is to preserve the scenic, natural, wildlife, historic, and pastoral values of the area. This goal also includes special provisions for the identification of sites typifying the history of the American West.

A comprehensive land use and management plan has recently been completed for the SNRA and incorporates private land restrictions as well as various recreational, natural habitat, scenic, mineral extraction, and air and water quality planning elements. The authority of the FS to acquire land or interests in land within the SNRA without the owner's consent and by means of condemnation is limited by the authorizing legislation to the acquisition of scenic easements when the private owner fails to use his or her property in conformance with the land use and management plan, and to the acquisition of easements for access to public property. (The acquisition of such "access easements," however, is limited to 5 percent of the total acreage of all private property within the SNRA on the date the authorizing legislation was enacted.)

Notable Techniques

The land use issue of greatest concern to FS administrators of the SNRA is the potential for private residential development to conflict with forest and

recreational values. In recent years, this threat has been most frequently associated with the upsurge in subdivision activities, primarily recreational second home construction. Such development took agricultural lands and eroded the scenic character of both the SNRA and the national forest.

Land Use Planning

To cope with such pressures to the resources of the area, the FS turned to two techniques for supplementing the fee simple acquisition program. First, in coordination with other federal agencies, private interest groups, and state and local governments, the FS drafted a comprehensive land use and management plan for the SNRA. Fundamental to the plan is an overlay on private lands of five land use categories: agricultural, community, residential, commercial, and mineral. Standards apply in each category regarding existing uses and prospective development. Landowners, in turn, approach the federal agency for formal certification acknowledging that their land uses reflect the standards. Once certified, the FS withdraws its right to condemn the private property. Through 1980, 75 percent of the applications for such certification were approved.

Easements

Linked to the FS certification program is a scenic easement purchase program. Owners who wish to use or develop a property in violation of an agreement already reached with the Forest Service may transfer their full title or an easement to the administering agency. The FS purchases specified private development rights through scenic easements. To date, all easements have been negotiated without recourse to condemnation. The FS does not normally seek out scenic easements; on the contrary, it waits until a landowner expresses a desire to develop in a manner not in conformance with standards of the applicable land use category.

The scenic easement purchase program at SNRA focuses on private lands where newly planned subdivisions or developments would conflict with FS certified uses. Easements have been acquired on 13,000 acres and the FS envisions possible future acquisition of easements on an additional 8,000 acres. Fee simple acquisition of subdivided properties will continue at a considerably slower pace than acreages gained through easement. (Ultimately, only 1,288 acres, or 5 percent of the privately owned lands are planned for purchase in fee.) In time, easement purchases will replace fee simple acquisition, except in cases where all the landowner's development rights would be taken over as a result of easement negotiations.

Sawtooth NRA staff report that while total federal acquisition costs over the long term will decline as more easements are purchased (compared to fee simple acquisition costs), short term administrative and inspection needs, which are financially burdensome, may increase. However, expanded coordinated planning activities between FS and local governments who control land use through zoning may alleviate some of this workload. Together, federal and local influence on private land use decisions should ensure development compatible with SNRA objectives.

REDWOOD NATIONAL PARK, CRESCENT CITY, CALIFORNIA

Techniques: Negotiation and Cooperative Agreements.

Background

In 1978, Congress expanded, through a legislative taking of private lands, the boundaries of Redwood National Park by including much of the Redwood Creek watershed upstream from the original park. This legislative action reflected congressional and National Park Service (NPS) concerns about adverse impacts on the park lands due to downstream sedimentation produced by private timber harvesting. It also represented the outgrowth of a considerably broader NPS initiative to obtain greater control over adjacent private land uses tantamount to federal zoning. When the latter arrangement was subsequently dropped from the legislation, Congress chose an alternative course for the park. The park addition of 48,000 acres was accompanied by a designated Park Protection Zone (PPZ) of 30,000 acres. On these adjacent private lands, the NPS has authority to acquire property from "willing sellers" or other owners upon a finding that failure to acquire such land could result in physical damage to park resources.

Administrative Framework/Management Objectives

Management objectives for the park range from providing recreational use to the preservation of various cultural and natural resources. There is also a specific program for watershed rehabilitation which aims to control erosion within the entire watershed. A central goal of the program is to reduce commercial forest area erosion rates upstream (particularly on adjacent lands), so as to enhance downstream park watershed quality.

Notable Techniques

The park's approach to protecting adjacent land is significant in several respects. It demonstrates the usefulness of cooperation and compromise as management tools. The NPS and the forestry industry have established a voluntary process of working out timber harvest plans in accordance with the objectives of the park. The NPS works closely with the state of California, which has authority to review timber harvest plans. The park planners feel that the voluntary system works because the act that creates the PPZ provides a procedure for the NPS to inform Congress that planned activities in the PPZ are in conflict with the objectives of the act. If no compromise can be reached, then Congress could authorize

acquisition. To date, the voluntary procedures have worked with great effectiveness. In addition, the PPZ voluntary review assumed by the NPS exemplifies close coordination with existing state environmental assessment programs. In this case, the NPS was integrated into California's procedures for systematically evaluating timber harvest plans.

The 30,000-acre PPZ buffer extended the influence of the park management staff onto adjacent private forest land use decisions without necessitating great public expenditures. NPS will only condemn lands after all other means to obtain the desired measures have failed. No such action, however, has been necessary to date, as all recommendations and concerns have been addressed.

Implementation of the NPS voluntary review is working well. Most timber management plans referred to the NPS by the California State Department of Forestry are for areas ranging from 20 to 200 acres. Inspections are carried out jointly, and negotiation with commercial timber harvesters are normally conducted by joint federal-state teams. To date, although there are professional and philosophical differences arising over the course of negotiations, the NPS feels confident that PPZ monitoring will help enhance downstream natural watershed values in the park. No major administrative problems have arisen, and private owners have generally been cooperative.

Reference

U.S. Department of the Interior, National Park Service. Summary of the Environmental Statement for the General Management Plan. Washington, D.C.: U.S. Government Printing Office, 1979.

For further information, write:

Redwood National Park, 1111 Second Street, Crescent City, California 95531

CAPE COD NATIONAL SEASHORE, CAPE COD, MASSACHUSETTS

Techniques: Local Zoning and Suspension of Condemnation Authority.

Background

The Cape Cod National Seashore (CCNS) was established in 1961. Its boundaries now encompass 44,600 acres, of which 26,000 (58 percent) are federally owned. The remaining lands are owned privately (10 percent) and by state and local governments (32 percent).

Over the last twenty years, the National Park Service has acquired, or is in the process of acquiring, numerous undeveloped private lands. There are no plans to obtain the remaining improved private properties (over 1,200 acres). For the most part, only those residential properties improved after 1959 (when the CCNS legislation was first proposed) have been acquired. Undeveloped private land uses within the CCNS boundaries are monitored very closely by the NPS. Private lands in communities with local, federally approved land use planning regulations and standards were exempted from federal condemnation as long as the regulations remain in force. However, private land may be acquired through condemnation if incompatible development is proposed. (This arrangement whereby condemnation and full fee acquisition is used only when an incompatible use of a property is planned has since become known as the "Cape Cod Formula.")

Administrative Framework/Management Objectives

The NPS has administrative responsibility for the CCNS. Its primary management objective is to preserve the seashore and its unique natural resources as well as to ensure the continued availability of these resources for public enjoyment. Outdoor recreation opportunities represent the hallmark of the CCNS, which services visitors from throughout the east coast and elsewhere in the United States. It has one of the highest volumes of visitation in the entire National Park system. In addition to purely scenic and recreational values, the seashore contains numerous historically significant structures and a natural sand dune ecosystem supporting both terrestrial and aquatic biological communities.

Notable Techniques

The decision to establish the CCNS in 1961 created an NPS jurisdiction which included both private residential and commercial properties. A number of

undeveloped private parcels were also encompassed. Private lands falling within the CCNS escaped the immediate threat of federal condemnation if local zoning ordinances conformed to Interior standards. The key component of the Interior standards was a 3 acre, minimum lot size in the seashore district.

Opinions differ as to the effectiveness of indirect NPS enforcement of local zoning restrictions. The planners for the NPS note several drawbacks in relying on local zoning. First, the enabling legislation did not provide for mandatory updating and review of the zoning laws to reflect new trends in land uses such as condominiums. Another weakness is the inability of the NPS planners to review town-issued building permits. Only when a permit is refused and brought to the appeals board does the NPS review it.

To some degree, the strategy of using local zoning has worked. Nonetheless, the NPS reported condemnation proceedings pending on over 1,100 acres (25 percent) of the 4,411 CCNS acres remaining in private ownership through 1979. Local zoning has functioned as an interim protection device often leading to fee simple acquisition, rather than a permanent means for controlling private lands. This approach also has been criticized because it gives the landowner control over when the property is acquired. Rather than assure that properties are purchased by the government when needed, the "Cape Cod Formula" allows the landowner to force federal acquisition when ready to sell. On the other hand, this approach can provide a truly effective alternative to buying land as long as current owners desire to maintain existing uses and do not wish to sell.

The inholdings are both the curse and the blessing of the CCNS. The patchwork of inholdings creates management problems. However, these inholdings and their structures represent the landscape character of Cape Cod and thus the basis of the park. In order to preserve that character, CCNS planners drew up guidelines as part of the park land acquisition plan. These were proposed in 1979 and approved in March 1980. These limit the expansion of dwellings existing as of September 1, 1959, to 50 percent, including any existing or new outbuildings.

Despite these drawbacks, the overall integration of NPS management activities and local community planning has proven successful. For example, the CCNS Advisory Commission, instituted in 1961 and reauthorized in 1977, plays a major intergovernmental coordinating role in zoning and park master plan formulation. The commission is regularly consulted on CCNS use permits and various other park issues.

References

For further information, write:

National Park Service, North Atlantic Region, 15 State Street, Boston, Massachusetts 02109

Cape Cod National Seashore, S. Wellfleet, Massachusetts 02663

PINELANDS NATIONAL RESERVE, NEW JERSEY

Techniques: Transferable Development Credit Program, Zoning, Easements, Loans, Grants, Intergovernmental Cooperation, and A-95 Reviews.

Background

In the southern portion of New Jersey lies a rather sparsely populated 1.1 million acres of pitch pine and oak forests, cedar swamps, ecologically rich coastal and inland wetlands, fertile agricultural lands, and shallow meandering rivers and streams. An extensive 17 trillion gallon freshwater aquifer, the largest in the eastern United States, underlies the region.

Commerce and industry are less prevalent in the Pinelands than in other areas of New Jersey, although there are some sand and gravel mining operations, agricultural support services, construction, and recreation related businesses. In the northern portion of the region, large military installations dominate the economy. Pinelands agriculture is also economically significant, and produces 24 percent of New Jersey's agricultural income, much of which is derived from the cranberry and blueberry crops that have become symbols of the region. Although the Pinelands comprises 20 percent of New Jersey's land area, it contains little more than 5 percent of the state's total population. Municipal population densities within the Pinelands vary from a low of 10 to a high of 4,000 people per square mile. Much of the recent residential growth can be attributed to continued suburban sprawl from the Philadelphia-Camden area, retirement community development, and Atlantic City area growth spurred by the new gambling casino industry. Despite these influences, the Pinelands still afford opportunities for hiking, camping, canoeing, and nature study within short driving distance of New York and Philadelphia.

The Pinelands has long been acknowledged as a unique and ecologically diverse natural area by the scientific community. However, government interest in its preservation was not evident until the mid-1950s when the state of New Jersey purchased a 90,000-acre tract. A concerted effort towards resource conservation for the Pinelands emerged in the 1960s and 1970s, and was led by a variety of state, local and federal agencies, as well as private groups. New Jersey, for example, initiated a major ecosystems study and the National Park Service began evaluating the region for possible inclusion on the federal list of National Natural Landmarks.

By 1972, the state sponsored a Pinelands Environmental Council to develop a comprehensive plan for the region. However, the plan was advisory in nature and

was never successfully implemented. Continuing public interest in the Pinelands and the expressed concern of the state led to federal legislation in 1978 (section 502 of PL 95-625) creating the Pinelands National Reserve and providing federal funds for planning and limited land acquisition by the state. The New Jersey State Legislature enacted the Pinelands Protection Act in June 1979 to implement section 502. Through this act the New Jersey Pinelands Commission was formally established, and was charged with preparing a comprehensive management plan for the Pinelands in accordance with state and federal statutes. The plan was approved by the U. S. Secretary of the Interior on January 16, 1981.

Administrative Framework/Management Objectives

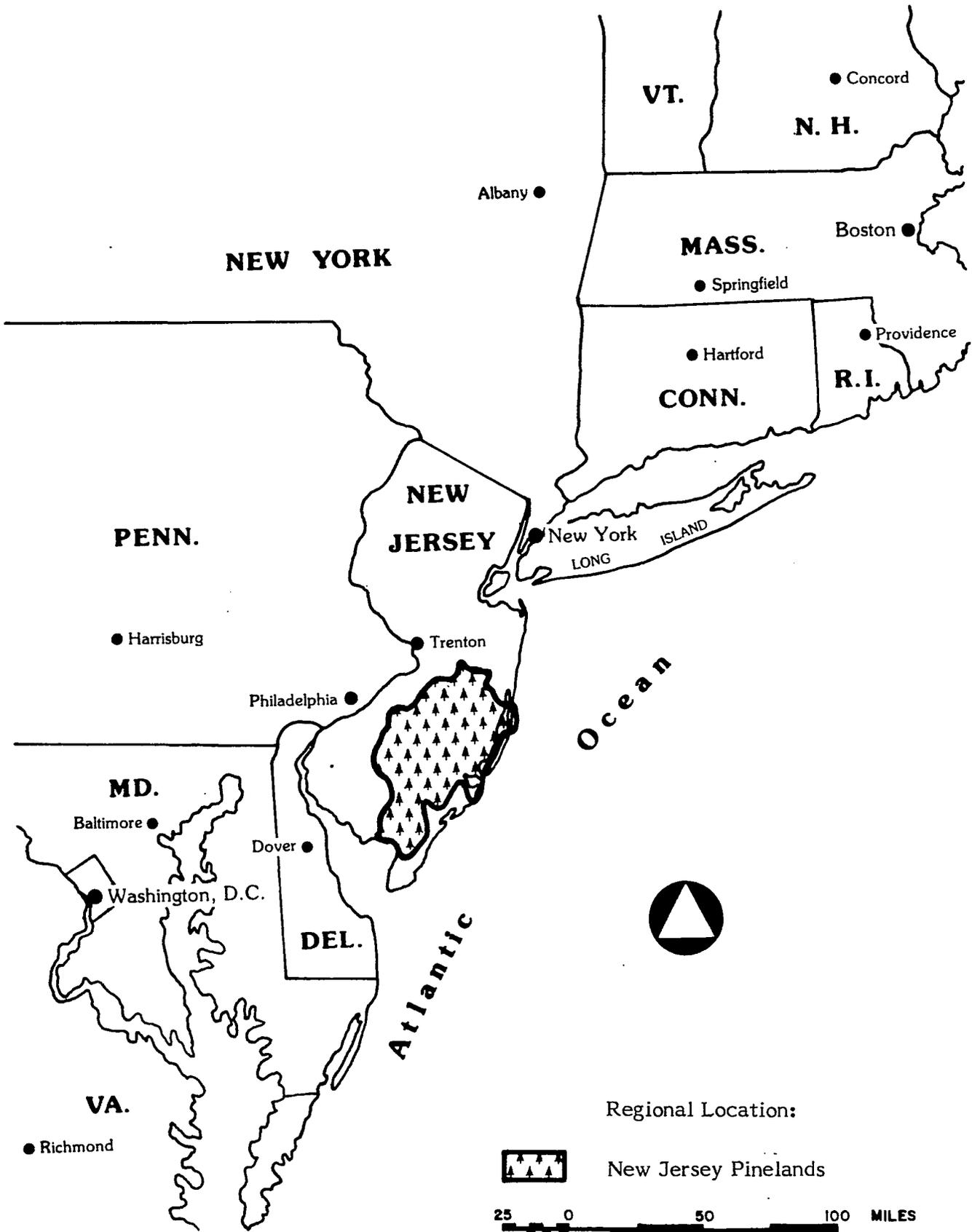
The Pinelands Comprehensive Management Plan (CMP) is based upon cooperation and coordination among all relevant local, state, and federal agencies; however, the Pinelands Commission is the lead administrative entity. The federal act establishing the Pinelands National Reserve represents an innovative partnership approach to protecting a significant landscape with a combination of natural, cultural, recreational, agricultural, and economic values. The federal act recognizes that the primary responsibility for protecting the Pinelands, a nationally important resource, properly rests with the state and local governments, supported by limited financial and technical assistance from the federal government. In adopting this legislation, Congress recognized that direct federal acquisition and management of the entire Pinelands ecosystem was impractical as well as inappropriate. The federal act calls for a partnership among various levels of government and the private sector to protect and preserve significant resource values while providing for continuation of compatible economic uses. The central responsibility for land use decision making continues to rest with the state and its political subdivisions.

The primary management objective for the Pinelands National Reserve is to preserve fragile natural resources while providing for suitable development in those areas which can best accommodate development. The CMP outlines specific land use categories for the entire region as well as specially tailored resource management programs and development standards to help achieve natural and cultural resource protection goals. Local governments are required by the state legislation to bring their land use plans and ordinances into conformance with the CMP by January 14, 1982, one year after the CMP's effective beginning date.

Notable Techniques

Pinelands Development Credits

One of the unique less-than-fee elements of the CMP is its Pinelands Development Credit (PDC) Program, similar to Transferable Development Rights (TDR) techniques previously discussed. In its simplest form, the Pinelands Development Credit Program creates a residential development transfer market whereby landowners in development-restricted zones can sell credits to landowners in growth zones, who in turn may use these credits to develop their land at greater densities. Only landowners in three of the six specific Pinelands land use districts can participate as sellers, however. These credit-selling zones are the 368,000-acre Preservation Area District and two types of agricultural use areas totaling more than 78,000 acres. Purchased credits may be used to increase densities



within the 119,000 acres designated as Regional Growth Areas. By concentrating development in these Regional Growth Areas, the Pinelands as a region can tolerate additional development without damaging the environment.

The PDC program allows landowners in restricted areas to secure a beneficial use of their land without the risk of damaging the essential ecological character of the Pinelands. The restricted area landowners effectively have an opportunity to share the benefits of any increase in real estate development values within the growth areas. And, in a sense, they receive payment for development opportunities foregone once a credit sale is completed. It is important to note that the PDC program is viewed by the Pinelands Commission as an added benefit for landowners in the development restricted zones, and not as a necessary form of compensation for loss of development rights.

Development Credit Bank

A further innovative feature of the CMP is its recommendation that the New Jersey Legislature establish a Pinelands Development Bank. The bank would guarantee loans with credits as collateral, or would purchase credits outright in certain cases where a resident is experiencing financial hardship.

The PDC program represents an alternative that encourages residential growth in appropriate areas, and at the same time, helps to achieve natural resource protection. In areas where development is most restricted, landowners can benefit financially from the development potential of their property. In growth areas, developers (credit purchasers) can gain greater housing densities with the potential for greater economic gain. The net result, moreover, involves no significant public outlay of funds for acquisition and facilitates more orderly land development patterns.

The PDC program is one of many innovative protection techniques being used in the Pinelands. Zoning, existing regulatory authorities over wetlands, local ordinances, grants, and other methods are being used to fulfill the mandate in the federal legislation establishing the national reserve: that protection is to be accomplished by use to "the greatest extent practicable," of state and local police powers.

References

Heritage Conservation and Recreation Service. Final Environmental Impact Statement on the Proposed Comprehensive Management Plan for the Pinelands National Reserve. Philadelphia, PA: U.S. Department of the Interior, 1980. Available from the National Park Service Mid-Atlantic Regional Office, 143 South Third Street, Philadelphia, PA 19106.

New Jersey Pinelands Commission. New Jersey Comprehensive Management Plan. New Lisbon, NJ: New Jersey Pinelands Commission, 1981. (\$10 per copy, plus \$3 postage.)

New Jersey Pinelands Commission, "The Pinelander." Intermittent newsletter, PO Box 7, New Lisbon, NJ 08064

LAKE TAHOE BASIN, CALIFORNIA/NEVADA

Techniques: Coordination, EIS Reviews, Federal/Bi-state Compact, Zoning, Transferable Development Rights, Water and Air Pollution Controls, and Innovative Financing.

Background

The Lake Tahoe Basin covers 500 square miles in a mountainous environment astride the California-Nevada border. Its acknowledged scenic values are accentuated by high-altitude waters and the nearby Sierra Nevada and Carson ranges. The basin is also a tourist and recreational haven. However, rapid development since 1950 has placed a severe strain on the basin's ecological carrying capacity. In particular, air and water pollution problems represent a major resource degradation threat. These problems stem mainly from nearby private land use activities such as gambling casino, hotel, and condominium construction projects. Roughly 29 percent of the basin is susceptible to development of this kind, primarily along privately owned property near the lake.

In 1970, Congress approved a Bi-state Compact that created the Tahoe Regional Planning Agency (TRPA). This agency was empowered to draft and enforce a regional land use plan incorporating environmentally sound resource conservation and development control strategies. The U. S. Department of Agriculture, Forest Service, the primary federal landowner in the basin, was also mandated to participate directly in the regional planning effort. Several other federal agencies, most notably the Environmental Protection Agency, have been active in basin planning in recent years.

Administrative Framework/Management Objectives

The Forest Service interest in Lake Tahoe resource planning stems from its control of over 65 percent of the land contained in the basin (roughly 130,000 acres). According to the Bi-state Compact, a presidentially appointed FS representative serves as a nonvoting member on the TRPA's 14-person governing council.

The FS, like the TRPA, is concerned about environmental degradation caused by incompatible private land development in the basin. Forest Service land management objectives, which incorporate natural and scenic resource preservation as well as public recreation, are threatened by the misuse of adjacent private lands. Threats include air and water pollution which detract from the outdoor recreation opportunities available on FS lands.

Notable Techniques

The original act of Congress consenting to the Compact and the Tahoe Regional Planning Agency gave it broad planning and regulatory authority. In addition to adopting a regional plan, the TRPA was authorized to adopt all necessary ordinances, rules, and regulations to implement the plan. These included minimum standards for the entire basin for water quality, subdivision regulation, zoning, tree removal, solid waste disposal, sewage treatment, grading, outdoor advertising, air quality, and sediment control. Although political constraints on the TRPA limited its ability to use all of these authorities, it had a wide range of protection tools available to it. TRPA was also an unusual entity, one that combined planning and implementation authority for a bi-state region.

TRPA/FS regional cooperation led to preparation of a basin-wide land capability classification plan in 1974. Roughly 76 percent of the basin's land was categorized as highly hazardous for use and development. Identification of this land, much of which was privately owned, led to a joint TRPA/FS objective of precluding development wherever possible in the interests of "natural area" preservation.

Since 1974, the identified land preservation objectives have been used to develop FS fee simple acquisition plans. More recently, an innovative approach to financing acquisition has been finalized. The program calls for the Bureau of Land Management to sell federal lands elsewhere in Nevada (near Las Vegas) with 85 percent of sale proceeds to be used for acquisition of private land in the Tahoe Basin. In this manner, funding to assure federal protection of highly hazardous zones (identified in the 1974 plan) was secured.

A number of other federal agencies are involved in regional environmental planning in the Lake Tahoe Basin. These entities are not all land managers in the same sense as the Forest Service, but they wield considerable influence on private land use through a variety of permitting and enforcement capabilities.

The EPA, for example, reviews municipal wastewater treatment plans in lakeside communities and assures compliance with state issued National Pollution Discharge Elimination System permit requirements. The U. S. Army Corps of Engineers is involved in flood control projects throughout the basin, and has permitting authority for structures proposed anywhere in or above the lake. In addition, the U. S. Fish and Wildlife Service conducts management activities on FS lands, particularly for watershed, grazing areas, and wilderness zones. Registration authority for historic and natural landmarks falls under the administration of the National Park Service.

Federal environmental planning on a regional level has grown quite recently. The Western Federal Regional Council, a group of regional agency representatives, is especially active. In 1979, for example, the council organized an interagency task force charged with the responsibility to conduct a basin-wide environmental assessment, and to examine the feasibility of regional environmental threshold standards. This assessment has helped to coordinate federal actions and avoid funding or licensing decisions that would exceed identified carrying capacities of the basin's resources.

There is no guarantee that the combination of federal intergovernmental arrangements and planning agency activities outlined above will solve Lake

Tahoe's long term environmental problems. What is evident, however, is that federal land managers can complement their resource protection efforts by cooperating with regional planning agencies and by working closely with other Federal agencies

References

U.S Department of the Interior, National Park Service. "Lake Tahoe Preservation Bill Enacted." National Parks Magazine (February 1981), p. 23.

Western Federal Regional Council. 1979. Lake Tahoe Environmental Assessment. c/o Dept. of Energy, 333 Market Street, San Francisco, CA 94105.

For further information, write:

Tahoe Regional Planning Agency, 2155 S. Avenue P.O. Box 8896 S. Lake Tahoe, CA 95731.

THE ADIRONDACK PARK, NEW YORK

Techniques: "Greenline" Park, Comprehensive Land Use Planning, Zoning, Subdivision Regulations, and Technical Assistance.

Background

The Adirondack Park, located in northern New York State, covers an area three times the size of Yellowstone National Park. Its 6 million acres (40 percent public, 60 percent private) make it the largest park (state or national) in the contiguous forty-eight states.

State efforts to preserve the area began in the late nineteenth century. Concern over the threat to the state's water supply and other resources posed by over-harvesting of timber in the area led in 1885 to the designation of state lands as a forest preserve. In 1892 the state included private lands with these public lands in creating the Adirondack Park. Two years later the state added constitutional protection to the publicly owned portions of the park, declaring that they be "forever wild."

The next stage in the park's development---the formulation of comprehensive land use plans---was made necessary by the mounting pressures on the park resulting from the completion of the Adirondack Northway (Interstate 87) in 1968. Consequently, the Adirondack Park Agency was created in 1971 to develop long-range land use plans for both the public and private lands. The agency administers the Adirondack Park Agency Act, which was passed in 1973. This act recognized the state's major interest in the protection, management, and use of the park's resources and the conservation of open space. Fundamental to the implementation of this policy is a strong state-local partnership.

Administrative Framework/Management Objectives

The Adirondack Park Agency is an independent, nonpartisan agency consisting of private citizens and state officials. The agency administers the largest area in the United States to be placed under a comprehensive land use planning and control program. For state lands, this authority is exercised in conjunction with the New York State Department of Environmental Conservation, including joint preparation of an Adirondack Park State Land Master Plan. First adopted in 1972, the plan emphasizes preserving the "forever wild" values of the forest preserve while protecting public use of both the preserve and campsites and other more intensive use areas.

The state land master plan classifies state lands according to natural features and capacity for use and establishes guidelines for management. The plan designates about 1 million acres as wilderness. Other categories determine management and use of the state lands for recreation. More detailed unit management plans translate the policies of the master plan into implementation programs that are carried out by state forest rangers, environmental conservation officers, and other state personnel.

The Adirondack Park Land Use and Development Plan covers the 3.7 million acres of private lands in the park. The development plan is designed to preserve the park's natural resources and open space by directing development into clusters around existing communities. All private lands are mapped into six broad land use classifications which prescribe the type and density of appropriate land uses. Permit jurisdiction is most restrictive in outlying resource management areas and least restrictive in developed hamlets, with only the largest projects requiring an agency permit in the latter. The agency also works with local governments to develop a two-tiered state and local government system of land use planning and control. If a town has its own zoning or subdivision regulations, a developer must go to both the local government and to the agency for approval of projects having "regional" impacts. After a town's land use program is accepted by the agency, a portion of the agency's authority is transferred to the local government, and the agency's review and permit authority pertains only to larger regional projects.

Notable Techniques

The Adirondack Park is the forerunner of the "greenline" park whose boundary encompasses a combination of state and privately owned lands. Variations of the "greenline" park have been tried in a number of states as natural reserves, preserves, and the "Cape Cod Formula." Authority to acquire land varies with the area and legislation, but the "greenline" park concept is based on a combination of acquisition and management techniques under strong state administration.

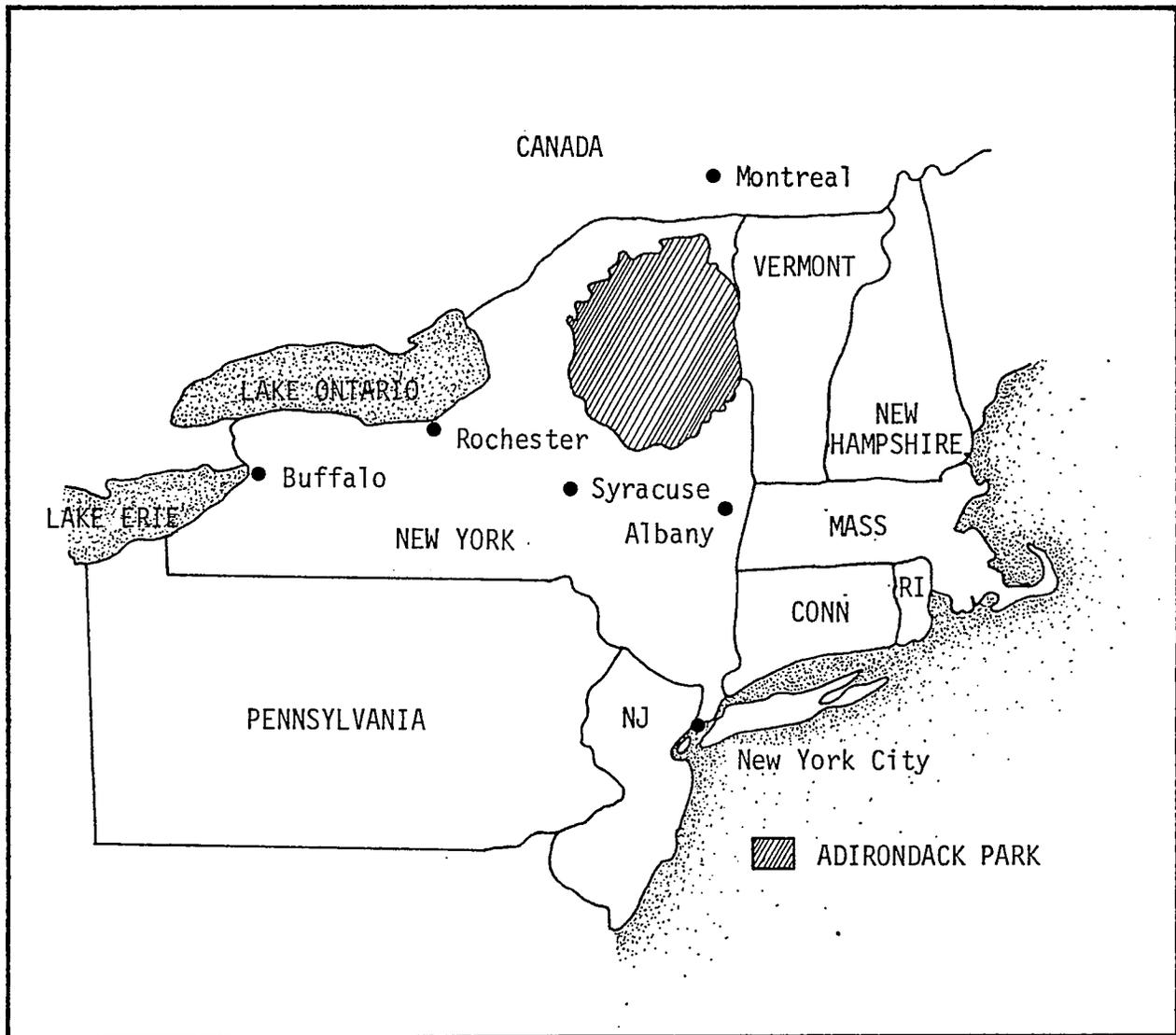
The Adirondack Park Agency has no authority to acquire land, although it does work closely with the State Department of Environmental Conservation, which has acquired both fee and less-than-fee interests in land for state protection. The agency relies on land use planning tools and regulations in order to administer the provisions of the act. The program activities of the agency can be categorized in three major groups:

Regulatory programs

Development proposals with a potential regional impact are subject to review and approval by the agency. This regulatory authority helps to insure that new subdivisions, state development projects (such as the 1980 Winter Olympics), major utility projects, and commercial and industrial developments take place where they are compatible with the natural character of the land and with minimum adverse effect upon the environment.

Regional Location: Adirondack Park

Source: Liroff, Richard A., and Davis, G. Gordon. Protecting Open Space: Land Use Control in the Adirondack Park. Cambridge, MA: Ballinger, 1981.



Planning, technical and financial assistance

The agency assists local governments in developing the capability to guide and control new development in the context of a long range land use plan. The agency

also trains community representatives to review local projects. In addition, a syllabus outlining local planning authority, procedures and technical considerations, and an accompanying seminar are being prepared to assist towns in using natural resource information, land use plans and ordinances.

Education and public information services

The agency has published a number of educational manuals and booklets. One of the most practical publications is the "Citizen's Guide to Adirondack Park Agency Regulations," which explains how the law applies to the individual landowner.

References

Adirondack Park Agency Act. 1973. Albany, NY

Liroff, Richard A., and Davis, G. Gordon. Protecting Open Space: Land Use Control in the Adirondack Park. Ballinger. Cambridge, Mass: Ballinger, 1981.

For further information, write:

Adirondack Park Agency, Box 99, Ray Brook, NY 12977

COLUMBIA RIVER GORGE, OREGON/WASHINGTON

Techniques: Multigovernmental Commission, Comprehensive Land Use Planning, Zoning, Technical Assistance to Local Governments, Agency Coordination, and Other Approaches.

Background

Situated along a portion of the border between Oregon and Washington, the Columbia River Gorge combines dramatic vistas, vertical cliffs, waterfalls, rain forest, abundant fish and wildlife, and rare plants. Mountains rise from 3,000 to 4,000 feet near the river to over 10,000 feet 25 miles away. The gorge itself is an extremely important geological feature; the nearly sea level course the river has cut through the Cascade Range is the only major break in that range between the Fraser River in British Columbia and the Klamath River in California. The gorge contains one designated national natural landmark and four other sites proposed for designation, portions of the Gifford Pinchot and Mt. Hood National Forests, archeological sites from 11,000 years of continuous occupation, encampments of the Lewis and Clark expedition, and the overland terminus of the Oregon Trail.

The gorge serves as an important transportation corridor. Navigation by oceangoing ships is possible all the way to Lewiston, Idaho. The region supports power generation, agriculture, forestry, and manufacturing. The Portland-Vancouver metropolitan area, a major seaport just west of the gorge, has a population of 1.5 million. Area residents use the gorge extensively for recreation. While boundaries of the gorge are inexact, the area studied here encompasses approximately 322,000 acres extending 85 miles along the Columbia River east of Portland (Figure 5).

Efforts to preserve the natural attributes of the gorge stretch back over 80 years. The latest of these efforts led to an NPS Study of Alternatives, which identified alternatives for preserving the gorge from threats posed by increasing industrialization, residential development, surface mining, dumping, clear-cutting and energy development. The study noted that "traditional approaches to preserve resources... may be limited or altogether infeasible when applied to the current political and economic circumstances," and outlined four plans for meeting the problems facing the gorge. All embody less-than-fee techniques and alternatives to acquisition. (These are discussed below.)

Administrative Framework/Management Objectives

The Columbia River Gorge contains portions of seven counties (three in Washington, four in Oregon), ten incorporated municipalities, and many small

unincorporated townsites and rural centers. Added to these bodies are federal, interstate, state, regional, and special district governmental agencies. The parties responsible for land use planning, land management, economic development, and environmental protection within the gorge total more than fifty. The Columbia River Gorge Commission, Oregon's Land Conservation and Development Commission, and the U.S. Department of Agriculture, Forest Service, currently play major roles in protecting the area under the current arrangement.

Columbia River Gorge Commissions

The Columbia River Gorge Commissions were established by the Oregon and Washington state legislatures in 1953 and 1959 respectively. They were instructed to adopt a comprehensive plan, to identify a boundary, to propose the acquisition and administration of lands within the gorge, to propose zoning, and to take other actions necessary to create a bi-state recreation area. In 1976 the commissions adopted a resource management program for the Columbia River Gorge. The program includes guidelines covering forest management, surface mining, housing, commercial and industrial siting, the enhancement of scenic qualities, and recreation. It identifies areas recommended for public ownership, either through outright purchase or through purchase of less-than-fee interests. Legislatures of both states have directed local governments to consider these guidelines in local plans and land use decisions. Neither state, however, has appropriated funds for the recommended acquisitions. The program does not suggest changes in existing county zoning. Neither commission has the funds or the powers to implement the management program. Their role is advisory only.

Oregon's Land Conservation and Development Commission

Oregon's Land Conservation and Development Commission, a statewide planning program established in 1973, requires cities and counties to adopt comprehensive plans in conformance with statewide goals and guidelines. All land use actions in the state must comply with the comprehensive plans and consider ways to protect open space and natural, cultural and historic resources.

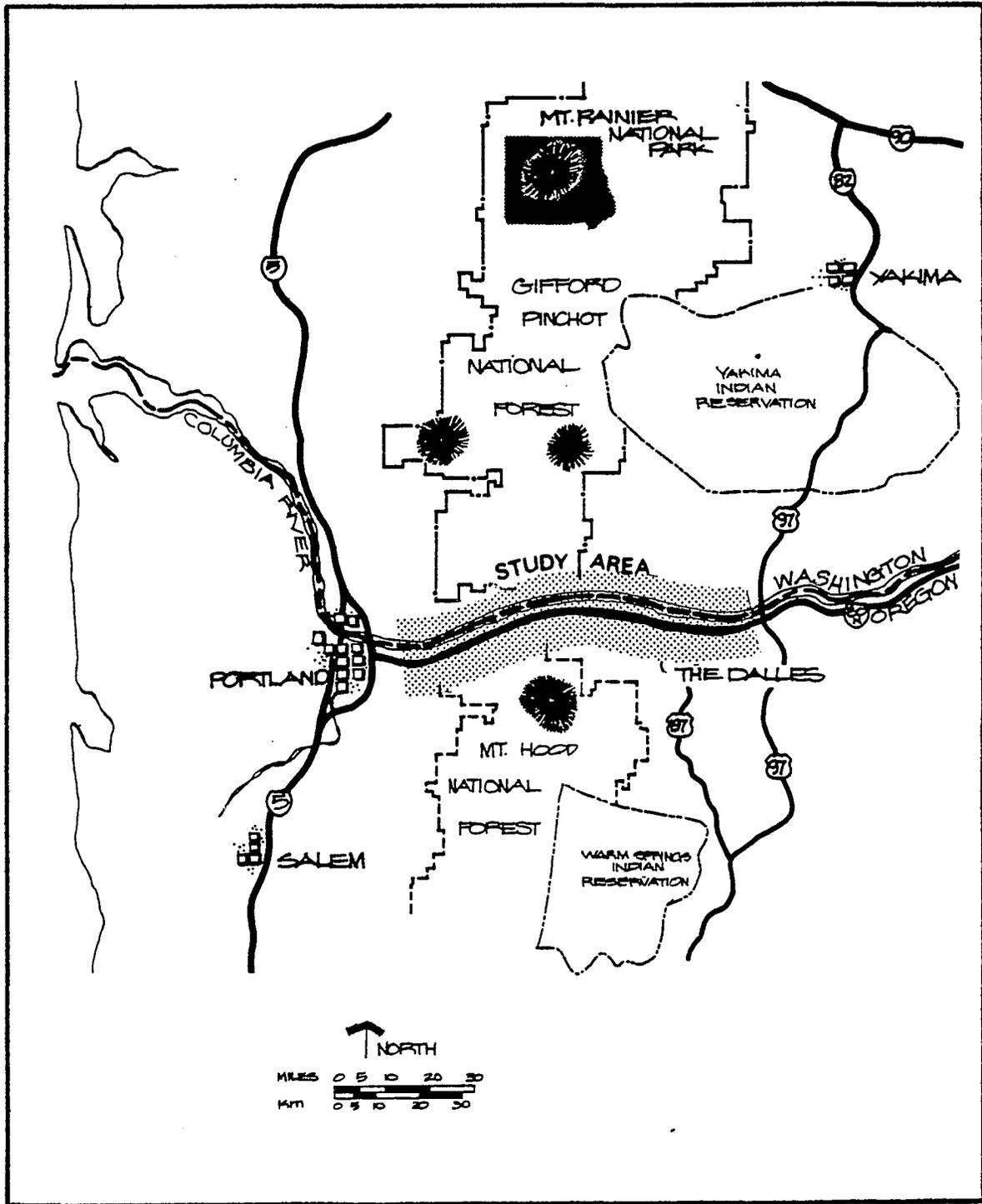
U.S. Forest Service

The U.S. Forest Service has designated portions of the Mt. Hood and Gifford Pinchot National Forests as special interest zones. These areas are managed primarily for their outstanding scenic qualities. Another portion of the Mt. Hood National Forest has been recommended for inclusion in the National Wilderness System under the Roadless Area Review Evaluation (RARE II) program. The Forest Service has also developed a visual management system to deal with management of the landscape. This system treats the visual landscape as a basic resource to receive equal consideration with other basic resources of the land.

The principal proposed strategies for protecting the Columbia River Gorge differ greatly, but they share the management objectives of preserving scenic landscape, allowing for community growth, working through existing institutional structures and increasing opportunities for people to enjoy and appreciate area resources.

Regional Location: Columbia River Gorge

Source: National Park Service. Columbia River Gorge: Study of Alternatives. Washington, DC: Government Printing Office, 1980.



Notable Techniques/Protection Strategies

The NPS study of the Columbia River Gorge delineates four principal approaches to protecting the gorge: 1) continuation of existing policies, 2) expansion of the role of the Columbia River Gorge commissions, 3) establishment of a multigovernmental commission, and 4) establishment of central federal management. The list of protection techniques proposed in these four alternative protection plans is a long one.

A recently drafted legislative proposal would combine most of the techniques presented in the other alternatives. (While it is not certain whether this draft legislation will become law, we have included it here because it indicates directions that land protection efforts could take in the Columbia River Gorge and elsewhere.)

The draft bill calls for the establishment of a Columbia River Gorge National Scenic Area to be administered by the Secretary of Agriculture, and for the creation of a Columbia River Gorge National Scenic Regional Commission made up of local, state, and federal representatives.

Land Use Planning

The Secretary of Agriculture, with advice from the regional commission, would prepare a management plan for the area. This plan would determine appropriate land uses for all lands within the area. After the plan is approved by the commission and adopted by the secretary, each local government entity in the area with land use planning authority would submit to the secretary and the commission a land use plan and zoning ordinances that conform to the provisions of the management plan.

Financial and Technical Assistance

The secretary would be authorized to provide technical assistance to the commission, and financial assistance to local governments to help them develop and administer land use plans.

Interagency Coordination

Federal agencies undertaking activities within the area must make sure that the proposed activities will be consistent with the plan. (This requirement would also apply to nonfederal activities involving loans, grants or licenses from federal agencies.)

Limitation on Use of Condemnation to Acquire Lands

While the secretary would be authorized to acquire lands or interests in lands without the consent of the owner, such authority would be limited in several ways. The authority would apply only to lands or interests in lands deemed critical by the management plan. Furthermore, lands used primarily for single-

family residences on or before a date specified would be exempt from condemnation as long as that use is unchanged. Finally, a limitation would be placed on the percentage of total acreage in the area that could be acquired by condemnation.

Exchanges

The secretary would be authorized to exchange any land under his administrative jurisdiction for nonfederal land in the same state.

Interstate Compact/Assumption of Authority by Commission

The draft legislation would allow all power and responsibility granted to the secretary to be assumed by the commission a specified number of years after the adoption of the management plan, provided that an interstate compact is approved by the states of Oregon and Washington and the Congress.

Mitigation of Local Revenue Losses

The secretary would be authorized to make payments to local governments to mitigate the loss of property tax revenue resulting from federal acquisition of private lands.

Donations

The secretary would be authorized to accept donations of money, services, and real or personal property for the management, protection or acquisition of lands within the Area.

References

U.S. Department of the Interior, National Park Service. Columbia River Gorge: Study of Alternatives. U.S. Government Printing Office, 1980. Available from the National Park Service, Denver Office, P.O. Box 25287, Denver, CO 80225.

For further information, write:

Supervisor
Mt. Hood National Forest
19559 Southeast Division Street
Gresham, OR 97030

Friends of the Columbia Gorge
310 Dekum Building
Portland, OR 97204

BLACKFOOT RIVER, MONTANA

Techniques: Easement Programs and Cooperative Management Agreements.

Background

Over the last twenty years, conservation and recreation management along Montana's Blackfoot River has emerged as a primary concern for many parties. They include state and county governments, private landowners, The Nature Conservancy, the U.S. Bureau of Outdoor Recreation (now NPS), and the University of Montana. Together, they developed the Conservation and Recreation Management Plan published by the Blackfoot River Task Force in 1976. This plan focused on a 30-mile river corridor predominantly in private ownership. Federal ownership is confined to a few relatively small U.S. Bureau of Land Management parcels. Among the land management issues in the corridor are littering, overuse, camping opportunities, public access, and site deterioration.

The plan prescribed a number of less-than-fee acquisition strategies, such as conservation easements and "recreation management agreements." These techniques were designed to control public use along the river corridor, to assure responsible and consistent management, as well as to protect sensitive areas from incompatible development.

Administrative Framework/Management Objectives

The overriding objective of the Conservation and Recreation Management Plan is to protect the natural, scenic, and recreational integrity of the Blackfoot Corridor through effective management of public recreation and restrictions on ecologically incompatible uses and development.

Central to the river corridor management component was an arrangement whereby The Nature Conservancy, in cooperation with the Montana Department of Fish and Game, would seek donated conservation easements at specific scenic areas along the Blackfoot riverbank. In addition, property owners within the corridor would enter into recreation management agreements with the State Department of Fish, Wildlife, and Parks. Both strategies, central to the plan's primary objectives, are designed to be complementary.

Notable Techniques

Recreation Management Agreements

The recreation management agreement program was originally envisioned as an experiment for resolving problems associated with the public use of privately owned land along the Blackfoot. More precisely, it provided a means of assuring greater recreation access for camping, hiking, canoeing, and fishing. Underlying the concept was a belief that well managed public uses could occur at specific sites without conflicting with customary property uses nearby. For example, hikers, canoers, raft floaters, campers, and fishermen can easily be accommodated on university, forest, or private timber company lands in many parts of the river corridor. Under the agreements, property owners entrust management of public access along the river corridor to the state, but not to the exclusion of any collateral use by private landowners for cattle grazing, private recreation or other activities.

Since 1976 when the recreational management program was first implemented along the Blackfoot, eighteen private landowners have agreed to participate. Areas under agreement total an estimated 95 percent of the recreational use areas earmarked in the 1976 corridor plan. Recently, the duration of the agreement was changed from one to five years, renewable on a voluntary basis. According to Montana state agency officials familiar with the programs, private landowner participation is expected to remain constant.

Conservation Easements

Compared to the recreation management program, the projected conservation easement donation program has been implemented more slowly. The Nature Conservancy has received four donated easements comprising a total of just over 1,600 acres within the corridor. The majority of these donations have been from private ranch owners. Elsewhere, especially on private corridor lands owned by Champion International, a major owner, the easement donation program is taking more time to implement.

Montana Fish and Game and The Nature Conservancy have separately formulated lists of prospective donors. By 1982, a system of easements inclusive of all of the important property in the Blackfoot corridor is expected to be implemented. These easements will range from fifteen years to in perpetuity.

References

U. S. Bureau of Outdoor Recreation. Blackfoot River Conservation and Management Plan. Denver: U.S. Government Printing Office, 1976. Available from the National Park Service, Rocky Mountain Regional Office, P. O. Box 25287, Denver, CO 80225

For further information, write:

Lubrecht Experimental Forest Greenough, MT 59836

WATER BANK PROGRAM

Techniques: Leases, Cooperative Agreements.

Background

The Water Bank Program helps preserve, restore, and improve inland freshwater wetlands and adjacent lands in important migratory waterfowl nesting and breeding areas. Under the program, landowners receive annual payments for conserving and protecting wetlands from drainage, filling, burning, or other land use practices that would destroy the wetlands.

The Water Bank Program currently operates in fifteen states. In the first ten years of the program, 667,000 acres were placed under protection in agreements with over 6,000 landowners. The program, however, operates primarily in the northern parts of the Central and Mississippi River migratory bird flyways. It is most active in the "prairie pothole" region of Minnesota, North Dakota, and South Dakota. The programs in these three states alone account for 73 percent of the landowner agreements and 74 percent of the protected land. The other states participating in the program include Arkansas, California, Louisiana, Maine, Michigan, Mississippi, Montana, Nebraska, Oregon, Vermont, Washington, and Wisconsin. The Secretary of Agriculture has the authority to expand the program to additional states as well.

To participate in the Water Bank Program, a landowner's property must be in a county selected by the Agricultural Stabilization and Conservation Service (ASCS) of the U.S. Department of Agriculture (USDA). To be eligible for a water bank agreement, land must either contain or be adjacent to inland freshwater marshes or open freshwater. A minimum of 2 acres of wetland or 10 acres of wetland plus adjacent acreage must be placed under agreement. Agreements generally last for ten years with renewals optional. They stipulate both annual compensation rates and specific land use restrictions.

Administrative Framework/Management Objectives

The Water Bank Program is administered through the ASCS, which has local offices throughout the country. Planning and technical assistance to landowners is provided by another USDA agency, the Soil Conservation Service (SCS). Counties are selected by state ASCS committees with assistance from SCS and state wildlife agencies.

A landowner interested in program participation must first apply to the local ASCS office. ASCS and SCS staff then examine the properties to certify that they meet minimum program requirements. At this point, the application is reviewed by the local ASCS committee. If approved, the landowners can sign the following agreement:

Each person agrees that in accordance with the regulations, 1) the designated acreage shown above will not be drained, burned, filled, or devoted to such other use which destroys its wetland character, 2) no crop will be harvested from the designated acreage and such acreage will not be grazed during the agreement period except as provided in the regulation, 3) the designated acreage will not be used as a source of irrigation water, as set-aside acreage or diverted acreage under another program, or to meet the farm conserving base requirements. (Standard form ASCS 692, Water Bank Agreement.)

During the agreement period, generally ten years, landowners are paid annually for satisfactorily meeting the obligations under the agreement. In Minnesota, the payment which the landowner receives varies according to the productivity of the land as farmland. However, the formula to determine annual payments can also vary by state. Among the variables that help determine rate levels are the amount of wetland, adjacent cropland, and adjacent non-cropland acreages at any one site.

Notable Techniques

The Water Bank Program relies solely on leasing landowners' wetland development rights, that is, the right to drain, burn, fill, or otherwise destroy the area's wetland character. The landowners are paid annually for the duration of the lease.

The Water Bank Program works for a number of reasons. It keeps land in private ownership while achieving public objectives. It appeals to farmers because it supplies a yearly income from the lease. It has become more popular recently due to its short lease period (usually ten years), which allows for revision to offset inflation. The terms of the lease have been revised to allow for limited timber harvest within the lease area. The harvesting by clear-cutting of 2 to 3 acres within the lease area allows for different stages of tree growth. Besides being beneficial to wildlife, the uneven aged timber is less likely to be clearcut at one time. This helps insure that the area will remain with the Water Bank Program.

In parallel, the U.S. Fish and Wildlife Service operates a wetland habitat protection program in the prairie pothole region which uses perpetual conservation easements. Landowners occasionally participate in both programs simultaneously. FWS has acquired easements on more than one million acres in the prairie pothole region to protect waterfowl habitat on land that remains in private ownership.

